26 June, 2000



Federal Aviation Administration
Office of Chief Counsel
Attn: Rules Docket, Docket No. 30086
800 Independence Avenue, SW., Room 915H
Washington, DC 20591

# Gentlemen;

Thank you for the opportunity to comment and provide some information on the issue of nonmilitary helicopter noise complaints.

I am a police sergeant and the officer in charge of a law enforcement air support unit comprised of two MD500E light turbine helicopters providing service to a community of 140,000 in southern California. We operate from 0730 until 0300 daily except week-ends when we operate from 1700 until 0300. I have been in charge of this unit since its inception in early 1990, during which time the Unit has accrued some 23,000 flight hours.

1. What are the types of helicopter operations (law enforcement, electronic news gathering, sightseeing tours, etc.) that elicit the negative response by individuals in densely populated areas?

It has been my experience that negative responses from the public to law enforcement helicopter operations has been minimal and generally occur during late night and low level (i.e. less than 500 feet above ground level) operations.

2. What air traffic control procedures are applicable in addressing helicopter noise reduction? Why?

Air traffic control procedures it seems would be of several types, including specific routing, hours of operations restrictions and altitude restrictions.

Since law enforcement is inherently reactive and no control exists over the locations or times of crimes, routing or hours of operations restrictions would essentially disallow airborne law enforcement the latitude necessary to accomplish the mission.

The majority of law enforcement helicopter operations are conducted at or above five hundred feet above ground level in circular orbits for a variety of reasons. There are occasions, however, when it is necessary to fly lower and slower;

# The MARCH Coalition Fund, Inc.



13622 Orchard Gate Road Poway, CA 92064 858-486-1742

2000 JUL -5 A 11: Fax: 858-486-9070 e-mail: vhargarten@socal.wanet.com website: www.stopchoppers.org

June 30, 2000

**Federal Aviation Administration** Office of Chief Counsel Attn.: Rules Docket, Docket No. 30086 800 Independence Ave, SW - Room 915H Washington, D.C. 20591

This is in response to your solicitation of comments relating to an FAA study to identify recommendations for reduction of the effects of nonmilitary helicopter noise impacting individuals of densely populated areas of the continental United States. Our organization is concerned with reducing the impacts of 112 heavy-lift military (Marine Corps) helicopters based within the City limits of San Diego which, in order to fly to and from their training locations elsewhere in California, conduct more than 1,000 flights per month over heavily populated communities. The combination of the large number of flights, the fact that most are conducted at relatively low altitude and the enormous size and power of these machines, has resulted in serious noise and vibration impacts affecting a large number of citizens.

Based upon analysis of data from Marine Corps noise studies for the specific helicopter types based in San Diego, the San Diego Association of Governments (SANDAG) econometric model shows a population of 673,000 living and working under three-mile wide helicopter noise corridors. Noise levels within the corridors are estimated to range between 75 and over 90 decibels. According to the study, at 75 decibels only 2% of conversational speech is intelligible.

Although San Diego's most serious helicopter noise problem is being caused by military aircraft, we submit that by including it in the FAA study, valuable insights applicable to the national problem would be acquired for the following reasons: (1) Like New York and other metropolitan areas, San Diego is a large population center, generally recognized to be the sixth largest city in the U.S. (2) like helicopters operated for law enforcement, electronic news gathering, etc., the military helicopters operating in San Diego are generally flying at relatively low altitudes in uncontrolled airspace over heavily populated areas; (3) with 13 civilian and military airports operating in San Diego County, the San Diego airspace is among the busiest in the nation and is highly congested; (4) Recently retired FAA air traffic controllers with experience in not only San Diego TRACON but also other major metropolitan areas have devised and recommended operating changes to minimize the noise problem created by San Diego-based Marine Corps helicopters. These recommendations can be made available to the study.

A substantial public outcry has prompted elected officials at all levels (including the Federal level) to request the Marine Corps to make route and/or altitude changes to solve the problem. I believe these officials would appreciate your including the San Diego helicopter situation - albeit military in origin - in the FAA study. Local studies of San Diego's military helicopter problem have produced a large amount of information which can be made available to the study.

Sincerely

Jerome J. Hargarten, President

cc: U.S. Representative Randy "Duke" Cunningham

Senator Barbara Boxer Senator Dianne Feinstein

Mayor Susan Golding - City of San Diego

A Non-Profit Public-Benefit Corporation Dedicated To Minimizing The Impacts Of Miramar-Based Helicopters

Springfield, VA 22153
June 28, 2000

Federal Aviation Administration Office of Chief Counsel Attn: Rules Docket, Docket No. 30086 800 Independence Ave., SW Washington, DC 20591



### Dear Sir/Madam:

The information provided below is submitted in response to your request for public comments on the issue of non-military helicopter noise on individuals in densely populated areas in the continental United States. I am submitting this information as a private citizen with substantial experience in General Aviation operations (I am a certified flight instructor with a commercial pilot certificate).

The number one noise issue that impacts my family is low altitude helicopter operations conducted over our neighborhood in West Springfield, Virginia. My family and I experience frequent low altitude helicopter operations which I believe are related to law enforcement, emergency medical services (EMS), and the military. The night operations are particularly annoying. Many of these helicopters are flying at altitudes significantly below 1000 feet AGL. The greatest noise impact is from the "heavy" EMS and military turbine-powered helicopters, although smaller law enforcement helicopters conducting low altitude searches (Fairfax County Police Department) have an impact of greater duration. Low flying helicopters have caused the following adverse impacts to me and my family: sleep disturbances, invasion of privacy, anxiety, and aggravation. Additionally, there is the potential for structural damage to buildings and property due to low frequency vibration, and the increased hazard to persons or property on the surface.

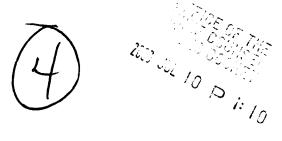
The magnitude of the helicopter noise problem can be traced to the lax provisions of 14 CFR Part 91.119 (d), Minimum Safe Altitudes: General, which in part states: "Helicopters may be operated at less than the minimums prescribed in paragraph (b) or (c) of this section if the operation is conducted without hazard to persons or property on the surface." This regulation allows helicopter operators to fly as low as they wish, anytime, day or night. Given this regulatory license, it comes as no big surprise that helicopter noise and safety are significant problems in urban areas. Congress should require that the FAA rewrite Part 91.119 to bring minimum helicopter altitudes in line with those of other aircraft.

Sincerely,

THOMAS RIFFE

29th June 2000

Federal Aviation Administration. Office of Chief Counsel. Attn: Rules Docket, Docket No. 30086 800 Independence Avenue, SW., Room 915H Washington, DC 20591.



RE: FAA Report to Congress / Section 747 of the Authorization Act Helicopter Noise Questionnaire

WAYNE

WILLIAMS I am a resident of the community Sherman Oaks, California, a suburb of the city of Los Angeles. Our home is located 3 miles south of the Van Nuys Airport. We are heavily impacted by helicopter noise that is not emergency, police or fire helicopter driven. As such, it is with great interest that I respond to the questions from your web site on this matter.

> What are the types of helicopter operations (law enforcement, electronic news gathering, sightseeing tours, etc.) that elicit the negative response by individuals in densely populated areas?

15423 SUTTON ST

CALIFORNIA

91403-3809

SHERMAN OAKS Low flying media helicopters that depart and fly before 7am in the mornings and 10 pm in the evenings, often just to provide traffic reports that are unnecessary as there are well established cameras and electronic measuring systems installed and imbedded along the . Freeway system providing the same information on traffic flows. 818/905-8097 Even traffic airplanes are quieter. It is also important to note that FAX / 995-6888 ALL of these helicopter aircraft have the technology to get the same "close" video image from great distances and should be forced to fly considerably higher than they do now.

> What air traffic control procedures are applicable in addressing helicopter noise reduction? Why?

Restrict their flying times to after 10 pm and before 7 am. and landings should be implemented only when the helicopters destination route is clear so they spend as little time in the air awaiting clearance to move into other regions of the city. Helicopters should be directed to higher altitudes so as to avoid excess noise to the communities below and traffic controllers should keep the craft on the ground for as little as possible to limit local residents around the airport from experiencing excess noise as well.

What impacts could restrictive air traffic control procedures have on operations of:

Law enforcement helicopters?

Minor Impact (should not be heavily restricted) as they tend to be lighter in weight and fly quieter, but they should fly higher whenever possible.

Electronic news gathering (ENG) helicopters?

MINOR IMPACT as they have the technology to fly higher and still gather the same visual information they may wish to broadcast.

Sightseeing tour helicopters?

Minor Impact as "tourists" will still see a birds eye view without invading the privacy of the community below.

Emergency medical services (EMS) helicopters?

NO IMPACT as EMS helicopters are working in life and death situations and should have special needs protected to value the life they may be trying to save.

Corporate executive helicopters?

Minor Impact as these craft often fly only during regular business hours to avoid massive traffic problems in the cities. They do not need to fly low for sightseeing and are often lighter and quieter then the Media versions.

4. What are the recommended solutions for reduction of the effects of non military helicopter noise?

Establish curfews for arrivals and departures of non-emergency helicopters. Recommended curfew from 10 pm to 7am. Increase media helicopter heights to move them far above other air traffic and decrease their noise impact on the community.

Use industrial routes where and when ever possible and avoid residential communities.

Remove the noise burden on already heavily impacted areas that are mixed with aircraft arrivals and departures by having of helicopter traffic fly over less used routes.

Restrict "HOVERING" as much as possible. Restrict cruising and get the news media to save fuel by covering only significant stories from their helicopters. Traffic reports do not require low flying helicopters.

Wayne William

Wayne Williams

# Laurie Ferguson Craig PO Box 33306 Juneau, AK 99803 907.789.2768

July 3, 2000

Federal Aviation Administration
Office of Chief counsel
Attn: Rules Docket, Docket # 30086
800 Independence Ave. SW, Room 915H
Washington, D.C. 20591

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200 JUL 13 PO 3: 57

Dear Sir or Madam,

Your request for comments on non-military helicopter noise is timely and appropriate for our community of Juneau, Alaska. Unfortunately, we may not be included because of the restriction to "continental" United States. Although we are definitely on the continent, the term often excludes the 49th state.

My first request is that Alaska be included in the Congressional investigation into non-military helicopter noise. Juneau residents are overwhelmed by the constant drone and thump of sightseeing helicopters over our homes and businesses during the summer tourist season. Thousands of flights per summer shuttle visitors to the nearby icefield for tours. Juneau's steep mountainous terrain causes the engine noise to reverberate, magnifying the irritating sounds that persist from early in the morning until the evening.

I have enclosed a Sunday, June 25, 2000 news article from the *Anchorage Daily News* which explains citizen concerns more completely than I can. My preference is for greater control over this noise source.

My second request is that FAA not restrict Juneau's ability to enforce a proposed noise initiative should the ballot measure pass later this year. It has been rumored that your agency may withdraw airport funding if a public initiative passes that would curtail helicopter tour hours of operation. The measure is not onerous; rather, it offers some reasonable respite for residents from the incessant helicopters. If the majority desires some limits to this noise and votes to accept the proposed ballot limitations, kindly maintain funding for Juneau's air service — more important because our only other transportation mode from the land- and water-locked city is via ferry.

I strongly recommend consideration of Juneau, Alaska for comprehensive noise studies and population surveys to determine the human impacts and stress factors of inescapable helicopter noise. Don't leave us out; we're a poster child for this issue.

Sincerely,

Laurie Ferguson Craig

# Copters, planes on glacier trips divide Juneau

y Martha Bellisle aily News Juneau Bureau

JUNEAU — Flying in single-file formation, clumns of helicopters and floatplanes buzz ver Alaska's capital each day, whisking thou-ands of visitors to a largely inaccessible vorld of jagged coastal peaks, blue glacial ice nd mountain goats.

But the dozens of daily excursions, and clans by air-tour companies to continue exanding, are grating on the nerves of some res-dents, who have responded by collecting sigstures on a citizen initiative calling for a cur-

extures on a citizen initiative calling for a cur-ew and limits on tourist flights.
"This has reached nuisance proportions," aid Ray Preston, spokesman for the Peace and Quiet Coalition, the group behind the ini-lative. "It's constant, virtually without break ill day. It prevents people from enjoying their

But flightseeing companies, which have een working with city officials on ways to reuce the impact of their aircraft on communi-

See Back Page, HELICOPTERS

Sunday, June 25, 2000 A-10

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# **ELICOPTERS:** Juneau resident

Continued from Page A-1

ties, say the initiative is a bad idea that will hurt those efforts and their companies

"If it was passed and implemented, it would probably put a lot of us out of business," said Bob Engelbrecht, president of NorthStar Trekking, the smallest of four helicopter com-panies that hold U.S. Forest Service permits to land on nearby glaciers.

The clamor over flightseeing noise is the latest chapter in a tourism debate in this city of 30,000. The rugged wilderness just out Juneau's back door annually lures hundreds of thousands of visitors, who must share the sidewalks with those who call Juneau home.

Last fail, after years of haggling, Juneau voters approved a \$5 head tax on cruise ship passengers. Many residents relaxed their embrace of the industry after two cruise ship companies were convicted last year of dumping pollution in the Inside Passage, said Mayor Dennis Egan.

The community feit betrayed," Egan said. The city clerk has until Tuesday to verify the 2,643 signatures initiative backers turned in. If 2,165 are valid, the initiative goes to the Assembly, which could approve a similar measure or pass the issue on to voters in the October municipal election.

The three-part measure requests the U.S. Forest Service to gradually reduce the number of glacier-landing permits it issues; bans daily tours before 9 a.m. and after 5 p.m. and prohibits tourist flights on Saturdays; and allows new heliports only if they reduce noise from 1999 levels.

Beyond dispute is the fact that the number

of flights is increasing.

Helicopter companies made 400 glacier landings in 1984, the first year the Forest Service issued permits for a short list of sites on the Juneau Icefield — a 1,500-square-mile frozen landscape that feeds 36 major glaciers, including the Mendenhall Glacier just east of

the Juneau Airport.

By 1994, that number had jumped to 11,647 landings, and last year, four companies made almost 16,000 landings. Helicopters carry about five passengers each, according to For-

est Service reports.
In addition, Wings of Alaska's fleet of floatplanes lift off and splash down onto the Gastineau Channel, next to busy downtown

Juneau streets and the cruise ships docks. The previous five-year glacier-landing permit cycle expired Dec. 31, and the Forest Service is wrapping up a draft Environmental Impact Statement on the next cycle, which runs through 2004, said Pete Griffin, District Ranger for Juneau district of the Tongass National Forest

The four operators have requested dramatic increases in the number of landings allowed. Coastal Helicopters Inc., asked to boost its traffic by a factor of five, from 912 landings in 1998 to 5,110 in 2004. ERA Helicopters Inc. sought a jump from 5,990 landings in 1998 to 17,443 in 2004.

In all, the four companies asked the Forest Service to approve 41,691 landings by 2004. "That's a pie-in-the-sky request," said Amy

Windred, Juneau base manager for ERA heli-copters. The companies shoot for high numbers, she said, knowing the final decision will likely show only a modest increase.

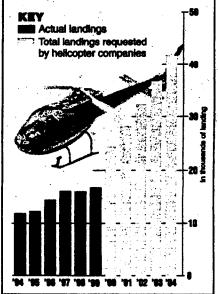
Don't bet on it, said Kim Metcalf-Helmar, an



Helicopters operated by TEMSCO, one of four around Juneau, disgorge their passengers on I

# Juneau flightseeing is rapidly increasing

Currently there are four companies under permit giving glacier landing tours: Coastal, ERA, NorthStar and TEMSCO

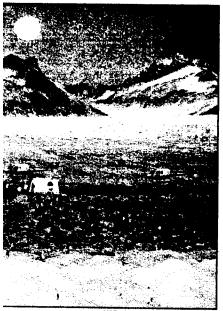


NON ENGETROIL / Anche

initiative supporter.

"Just look at the way they've increased historically," she said. Flightseeing has become "such a popular activity — they're going to

# s complain about increased flights



mpanies with permits to set down on glaciers upper Mendenhali Glacier in 1998.

ush the numbers as hard as they can."

Most flightseeing customers are among the ore than 600,000 cruise ship passengers who isit Juneau between May and September.

Aircraft companies meet customers at the ock with buses that transport them to heli-1 on to the glaciers, where visitors can to deep crevasses and spot brown ears, goats and other wildlife from the air.

Helicopter tours usually last one to four ours and cost between \$160 and \$335 per per-

Some companies take clients for treks or ofr sled-dog rides over the craggy glacier sur-

Last June, the industry experienced what is elieved to be the first accident involving ghtseeing passengers, when a Coastal heliopter crashed on Herbert Glacier, killing all x tourists and the pilot.

Then in September, five tourists and a pilot ere stranded on Herbert Glacier when their elicopter crashed in bad weather. No one was lled, but two other helicopters helping in the arch also ended up stranded on the glacier ne had engine trouble and the other crashed, aving four more people with minor injuries.

The question of whether to regulate aircraft affic to limit noise has evolved into a hot-butn local topic that has ignited spirited, and metimes nasty, attacks and debates in public rums and local publications.

Almost everyone seems to have a strong inion about it.

"It's a lot of noise over nothing," said Sandi anderson, who lives in the Mendenhall Valley, hich is rimmed by flight paths. "They're owing it way out of proportion."

Amanda Corcoran, who lives in Douglas, ross the channel from downtown Juneau, reed. "I think people are making a big stink out nothing," she said. "They should just get

But Greg Cook, who lives in North Douglas, across the water from the airport where three of the four helicopter companies maintain heliports, said the steady increase in flightseeing traffic demands regulatory action.

'You don't have voluntary compliance for the speed limit on the Egan (Drive) or the oil companies on the North Slope," Cook said. Controlling aircraft traffic will benefit the

tourist industry, he said, by protecting Juneau's reputation as a remote wilderness destination. And it will be good for the community by making Juneau a better place to

But the initiative's greatest value, Cook

said, is to force action on the issue.
"It has aroused more comment and thought than the Assembly has been willing to put into this." he said.

Initiative spokesman Preston agreed.

"It's a company-town mentality in City Hall," said Preston. "We were forced into the initiative process."
Assemblywoman Cathy Munoz said city of-

ficials have been working on the problem and voluntary agreements made with operators have already resulted in lower noise levels.

'I support a more cooperative type of relationship instead of a regulatory approach," she said.

NorthStar's Engelbrecht said the four helicopter companies and Wings hammered out a list of options to lower noise levels, including flying at higher altitudes, changing routes and exploring the use of quieter aircraft.

"We've gone ahead and done these things voluntarily," he said. "The frustration is the process with the city is ongoing, and the initia-

tive circumvents that process.

Problem is, some initiative supporters say, helicopters can only fly at higher altitudes when the skies are clear — which doesn't happen often in Juneau. And many new flight paths take aircraft over popular trails, annoying hikers.

The Assembly has authorized spending \$100,000 on a noise study, said deputy city planner Donna Pierce, to help document the problem before calling in a mediation consultant from Seattle to bring stakeholders togeth-

"We don't have a scientific measure to address the issue in a scientific way so we can get some agreement on the facts before mitigation," Pierce said.

The study should begin in July, she said. The Federal Aviation Administration has

warned the city that \$1.3 million in grant money it receives annually for work at the airport could be in jeopardy if the city implements the initiative without following the federal agency's strict protocol for regulating air-space, said Jim Lomen, FAA airport planner for Southeast Alaska.

"It sounds like they are trying to control flight and navigation of aircraft," Lomen said. "If it passed and if the city enforced it there are requirements they would have to meet.'

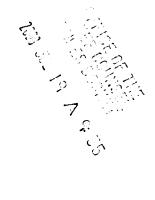
Preston, an attorney, said the city has legal authority to implement the initiative.

"It shouldn't be a problem," he said. "This is purely a local thing and shouldn't concern the

Reporter Martha Bellisie can be reached at mbellisie@adn.com.

Federal Aviation Administration
Office of Chief Counsel
Attn: Rules Docket
Docket No. 30086
800 Independence Ave., Room 915H
Washington, D.C. 20591





Please accept these comments on helicopter noise.

# **Ouestion 1: Types of Operations**

In Portland, before 1995, the most common overflights were by medical emergency helicopters, private operators, and military. I was not able to discern any particular pattern of direction or schedule. A helicopter passing overhead was unusual enough to catch my attention. In 1995, one local television station began using a helicopter. Within a year or so, four stations had helicopters (one station has two). The use patterns are quite different from military, medical, sightseeing and private. The television stations' helicopters are used during most rush hours, as well as other times, day and night. They generally fly between 500 and 1500 feet, which is generally lower than the other helicopter users. (Please note that it is possible to make rather good estimates of altitudes here; I know the elevation where I live [75 feet], I know the height of the tallest building downtown [640 feet], and there is a linear mountain one mile west of downtown [~1000 feet]. Please also note that I use binoculars in order to correctly identify helicopters.) The television helicopters circle and/or hover, which the others rarely do. Two of these helicopters are based close to the center of population; one other takes off and lands downtown throughout the day, but is kept at an outlying airport at night.

No local law enforcement agency currently uses a helicopter.

No <u>sightseeing</u> usage of helicopters was apparent until this spring (2000) when one operator began running flights on Saturdays and Sundays. They are based in the downtown area and appear to make one circle, approximately ten minutes, over the most densely populated part of the city. They fly rather low, but do not hover.

For myself, it is definitely the television helicopters that provoke a negative response. The change that began in 1995 was a radical one. Of all the ambient noise in my close-in residential neighborhood, I expect and can live with cars, trucks, stereos, even jet aircraft, but I find the helicopters impossible to bear. With the use of a decibel-measuring device, I have determined that the engine-noise of a helicopter being operated between 500 and 1000 feet will range between 75 and 85 decibels, which is loud enough to disrupt my attention to reading, listening to radio, writing, and conversing. Most other noises are limited by city ordinance to 60 db in the daytime and 55 db between 10 p.m. and 7 a.m. As you know, the perception of 75-85 db by the average person is way more intense than 55 or 60.

I am not alone. A large number of letters to the editor were printed in our daily newspaper, The Oregonian, in 1995 and 1996, when the t-v stations began using their helicopters, and there were some radio reports about the noise issue. Not surprisingly, the local t-v stations did not report on this issue.

I have some background in journalism. It is my opinion that, while more restrictive procedures might have impacts on the t-v helicopters, such procedures would have absolutely no negative impacts on news gathering. Maintaining a minimum altitude of 1000 feet, for example, would be a change, but both the visual abilities of a typical pilot/reporter and the camera equipment currently in use are more than adequate to present the types of story and depth of detail that the stations seem to want to observe and report.

# Ouestions 2 & 3: Air Traffic Control Procedures

Air traffic control procedures may be in conflict with the uses to which helicopters are put in Portland. As I understand it, helicopter pilots may be finding it advantageous to fly low over the most populated areas of the Portland metropolitan area because flying higher would require reporting to the tower at Portland International Airport, and thus might bring instructions to leave a "newsworthy" area clear for controlled air traffic. The usual takeoff end of the runways (the west end) is approximately three miles from downtown.

The Portland Police Bureau does not now use a helicopter, but has recently considered doing so. I do not know how they plan to use it. I would be opposed to circling and hovering operations, as well as the use of loudspeakers and bright searchlights.

Although <u>sightseeing</u> is a relatively new use for helicopters here, one comment can be made already. On a short duration (10 minutes) flight which takes off and lands in the center of population, it is probably impossible to avoid disturbing many people, because there just isn't the opportunity to gain altitude.

Emergency medical service helicopters serve several hospitals, one of which is about one mile from the center of Portland. Pilots do not hover or circle, but they do sometimes fly rather low.

I am not able to determine which unmarked helicopters are carrying <u>corporate executives</u> and which are carrying other types of people or freight.

# **Question 4: Recommended Solutions**

14CFR Ch. 1 Sec. 119(d) should be deleted, in order to reduce the effects of helicopter noise. The key word in this section is "hazard". To a layman, the stress caused by unwanted interference with one's lawful activities on his own private property or on public property is clearly a hazard. I understand, however, that some acoustics experts and some lawyers may differ on this issue.

Here in Portland, we have a relatively good noise ordinance. Violations are measured at the property line of the person hearing the noise, rather than at the location where it is generated. The decibel level (in residential areas) is 60 dba daytime and 55 dba at night. There are a small number of exceptions, but the almost across-the-board application of the ordinance creates an atmosphere of fairness. By analogy, if aircraft were regulated the same way, they could be as loud as they want, and fly at any altitude, as long as each aircraft was operated high enough to not exceed a fixed decibel level as measured on the ground. Depending on the size of the engine, some helicopters are louder than some fixed-wing aircraft at the same altitude; thus, an attempt to limit noise to a certain decibel level as perceived on the ground might actually require some helicopters to be flown higher than some small fixed-wing aircraft. But specific altitude minimums would not be stated in such a noise regulation.

Ideally, Congress would permit state and local governments to regulate aircraft noise on intrastate flights. However, I recognize that this is not a political reality, nor is it within the scope of the FAA's regulatory power. As an alternative, the FAA should set nationwide decibel limits on aircraft as heard on the ground, with allowances for takeoffs and landings.

Tens of thousands of people live within a one-mile radius of downtown Portland, and with the sound path of most helicopters being a mile wide, tens of thousands of people are negatively impacted by each flight. (One wonders if as many people are watching each station's newscast as are negatively impacted by the production of the newscast.)

In addition to volume itself, <u>duration</u> of noise as perceived in a given location on the ground is an additional issue. Helicopters typically move more slowly than fixed-wing aircraft, even when traveling from point to point. Thus, the time period during which a helicopter is audible at a given point on the ground is sometimes longer than that for a fixed-wing aircraft with the same size engine. Even those who live near the airport do not hear a jet taking off for as long as some passing helicopters are audible. Further, when a helicopter circles, the radius of the circle is most often small enough that the sound is *continuously* audible to everyone inside the circle, and to many outside the circle, depending on altitude and engine size. I have personally experienced a television-station-operated helicopter circling a point near my home for six hours, and many times for two hours or more. They also have hovered in one spot for long periods of time.

Yet another issue is the tendency of television helicopters to "flock" together, intensifying the total noise experience.

<u>Time of day</u> is also an issue for all types of helicopter use. Although there is generally more use during daylight hours, all types of use occur at night, except (so far) the sightseeing operation. The television helicopters have circled and hovered for long periods of time in the "wee" hours.

Despite all these concerns, it would be politically and constitutionally impossible for the FAA or any other agency to tell helicopter pilots to "keep moving", or to avoid "flocking" or to not fly at night. But a minimum altitude regulation, or an across-the-board decibel

limit would be both fair and constitutional, and I don't believe it would negatively impact anyone's ability to report news or to compete in interstate commerce. Commerce is on both sides of this issue. I, too, work for a profit-making operation -- I manage an apartment building. As noise increases, it grows harder to rent vacant apartments. As vacancy time increases, owners of such properties lose rental income. When one citizen's right to profit by operating an aircraft in a certain way lessens another citizen's ability to profit because of noise interference with his business, or interrupts his "pursuit of happiness", we have a problem. I am confident that more restrictive flight procedures, as I have described above, will benefit the latter person, while not negatively impacting the former person. I understand that it is not within the FAA's jurisdiction to decide who may fly or why they may or may not fly. Nor should the FAA be interfering with freedom of the press, or with the right of companies to pursue profits. The agency does have the obligation, as do all federal agencies, to regulate fairly.

Finally, I would recommend that the helicopter noise problem be solved by regulation or legislation, rather than by a call for voluntary, self-imposed flight restrictions. In my many contacts with helicopter operators and lobby groups, they have always told me that they intend to continue to fly when, where and however they please, and they often remind me that the way they are doing it now is entirely legal. I know that this is an era of deregulation, but this particular problem is one that must be solved by force of law.

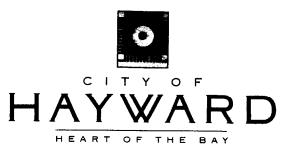
Sincerely,

Bruce Silverman

1943 N.W. Irving, Apt. 305

Bruce Silverman

Portland, Oregon 97209



July 21, 2000



FEDERAL AVIATION ADMINISTRATION
Office of Chief Counsel
800 Independence Avenue, SW., Room 915H
Washington, D.C. 20591

Attn: Rules Docket No. 30086

Dear Sir/Madam:

The City of Hayward hereby responds to your request for comments and information regarding a study to identify recommendations for reduction of the effects of nonmilitary helicopter noise in densely populated areas. The City precedes these comments with the assertion that, whenever possible, overflights of residential areas should be avoided.

Question No. 1: "What are the types of helicopter operations (law enforcement, electronic news gathering, sightseeing tours, etc.) that elicit the negative response by individuals in densely populated areas?"

# Response No. 1:

Law enforcement - Operations are conducted mostly at night and at low level (750' AGL and lower). Continuous low-level circling and surveillance of residential neighborhoods are highly observable by homeowners.

<u>Electronic News Gathering</u> - Arrival and departure paths requested by these pilots seem to correspond to fuel-efficiency and time savings rather than for a concern about noise impacts. Continuous circling over neighborhoods to gather news or conduct live coverage of traffic accidents or traffic congestion and video taping are highly noticeable by homeowners.

Sightseeing tours - Little impact at Hayward.

Emergency Medical Services - Annual "flight check" performance examinations of pilots and engine maintenance run-ups for extended periods of time are noted by nearby residents.

Helicopter Flight Instruction - Helicopter training and instruction operations can be more noticeable to homeowners than fixed wing. Arrival and departure route requests by pilots seem to be dictated by the relative location of the training area, airspace congestion and direct routing to the operators homebase (if other than Hayward) rather than for a concern about noise impacts.

DEPARTMENT OF PUBLIC WORKS
HAYWARD EXECUTIVE AIRPORT

Question No. 2: "What air traffic control procedures are applicable in addressing helicopter noise reduction? Why?"

**Response No. 2:** Existing air traffic control procedures do not address helicopter noise (or any type of aircraft noise). The safe and efficient movement of traffic is the priority.

Question No. 3: "What impacts could restrictive air traffic control procedures have on operations of: law enforcement helicopters; Electronic news gathering (ENG) helicopters; sightseeing tour helicopters; emergency medical services (EMS) helicopters; and corporate executive helicopters?"

**Response No. 3:** The question does not quantify "restrictive". *Reasonable* arrival and departure routes for all helicopters, including prescribed altitudes, directing flights over non-residential areas should not have any adverse impacts on helicopter operators. Exemptions for rapid responses to law enforcement or medical emergency flights could be implemented.

Question No. 4: "What are the recommended solutions for reduction of the effects of nonmilitary helicopter noise?"

Response No. 4: Prescribed arrival and departure routes established over non-sensitive areas (non-residential), to include minimum altitudes.

Sincerely,

BRENT S. SHINER Airport Manager



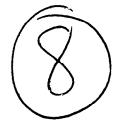
2901 Airport Drive, Torrance, California 90505

Phone (310) 539-0508 Fax (310) 539-5198

21 July 00

2000 JUL 24 P 2: 26

Federal Aviation Administration
Office of Chief Counsel
Attn: Rules Docket, Docket No. 30086
800 Independence Avenue, SW, Room 915H
Washington, DC 20591



Dear Sirs:

Robinson Helicopter Company would like to provide comments for the FAA study on helicopter noise impact in densely populated areas.

All helicopter manufacturers are required to perform noise tests per FAR part 36. These regulations specify maximum allowable noise levels for helicopter certification. Currently, the allowable noise levels are indexed to helicopter weight, allowing heavier helicopters to emit more noise. This is not logical because people on the ground are not concerned with how heavy an aircraft is but rather with how loud it is.

An effective solution would be to establish a ground-level noise limit for noise sensitive areas, with each helicopter model adjusting its flyover altitude as required to meet the limit. Louder helicopters, regardless of weight, would be required to fly at higher altitudes over noise sensitive areas, ensuring that the noise impact never exceeds the pre-defined limit. Each helicopter flight manual would state appropriate altitudes to comply with noise limits. Increasing the distance between a noise source and an observer is the simplest, most inexpensive, and most universally effective way of reducing noise impact.

We would also like to note that the current weighting scales used for noise measurements do not accurately represent human hearing, especially in the higher frequency ranges. Although these scales are in common use, other scales which more closely approximate human hearing are available.

Your careful consideration of these comments is greatly appreciated.

Sincerely.

Pete Riedl

Vice President, Engineering



3213 West Wheeler Street, #146 • Seattle, WA 98199 • 206.763.7222

Web Site: www.airportnoise.org

21 July 2000

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Federal Aviation Administration Office of the Chief Counsel Attention: Rules Docket Docket No. 30086 800 Independence Ave. S.W. Washington, D.C. 20591

Dear Staff:

This letter constitutes the comments of the Seattle Council on Airport Affairs on FAA Docket 30086, which deals with impacts of helicopter flights over densely-populated areas – which we read as meaning cities.

A word at the outset about our organization. Seattle Council on Airport Affairs is a Washington not-for-profit corporation, with status as a non-profit organization under sec. 501(c)(3) of the federal Internal Revenue Code. Its members include individual citizens and also community organizations having concerns with airport and aviation activities affecting the City of Seattle, its residents, businesses, and other groups. We have 15 constituent member groups (another group having joined since the letterhead was prepared). Our individual and group members are found throughout the city. While our primary concerns are with the two major airports in this county, we also have ongoing interests in such other aviation activities as helicopter bases and helicopter overflights.

In its request seeking public comment, the FAA asked for responses to four questions:

- 1. What are the types of helicopter operations that elicit the negative response by individuals in densely populated areas?
- 2. What air traffic control procedures are applicable in addressing helicopter noise reduction? Why?
- 3. What impacts could restrictive air traffic control procedures have on operation of law enforcement helicopters, electronic news gathering helicopters, sightseeing tour helicopters, emergency medical services helicopters, corporate



FAA Docket 30109 21 July 2000 Page 2

executive helicopters?

- 4. What are the recommended solutions for reduction of the effects of non-military helicopter noise?
- Q-1. What are the types of helicopter operations that elicit the negative response by individuals in densely populated areas?
- A-1. All helicopter flights over the city elicit negative responses. Flights at low altitudes in the early morning hours are very troublesome. Hovering, or tight-circling, flights (characteristic of television news operations & other sight-seers) are very troublesome at any hour. In our city, there have been continuing problems with medical helicopters that fly fixed routes at low altitudes at fixed times in the early morning hours NOT emergency flights; this problem is under control at the moment, thanks to negotiations between the hospital involved and affected neighborhoods, but this is likely to be a typical problem all over the U.S.A.
- Q-2. What air traffic control procedures are applicable in addressing helicopter noise reduction? Why?
- A-2. We are not aware that FAA <u>HAS</u> any flight procedures for helicopters. It is our understanding that FAA lets helicopters do what they like.

In terms of us suggesting to FAA what flight procedures would be desireable, it would be more appropriate for FAA to tell us what flight procedures (a) ARE in effect, (b) ARE in FAA's view possible. This is FAA's area of expertise: it would be more suitable for FAA to offer either explicit suggestions of measures or to indicate plainly the parameters of acceptable suggestions from the public. Our perhaps inexpert & ill-informed guesses as to what FAA can do or what FAA may do or what FAA will do are surely of little help.

If we were actually writing rules, we would create the following:

(1) Rules requiring helicopters flying regular routes, or just buzzing off to some destination, to stay 1500 feet above the ground, except when landing or departing – and requiring such craft to land & depart vertically, as they are capable of doing.

Comment. We are in receipt of the comments of the National Helicopter Noise Coalition, which suggests a floor of 1500 feet, and knowing of their expertise, accept their figure as the altitude should be suggested by FAA as the rule for minimum altitude. Setting a reasonably high minimum altitude would have an immediate beneficial result, for the inverse-square rule applies here – double the height, cut the noise on the ground by a factor of four.

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- (2) Rules to forbid sight-seers circling anywhere, especially in densely-populated areas.

  Comment. Sight-seeing by aircraft is not a desireable activity. The noise & pollution burdens imposed on the people below, together with the increased safety risks, are far out of balance with the benefits benefits that accrue to only a very few. Local governments and the general population would not tolerate sight-seeing by busses that generate the amount of noise & pollution as aircraft. The FAA should be equally diligent on behalf of the general population.
- (3) Rules to forbid regular "milk runs" between 9.30 p.m. and 7 a.m.

  Comment. Most of those "milk runs" subject many people to unwanted noise during normal hours of repose just for the minor convenience of a handful of others.
- (4) Rules to prevent the use of helicopters in the city as personal vehicles.

  Comment. Like sight-seeing, personal travel in the city by helicopter is a fringe activity, with no benefits to the public and much harm. Some high corporate officials occasionally claim that they must have special helicopter privileges in order to visit their various sites efficiently. No-one else would enjoy such privileges at the expense of others, so why should they?
- (5) Routing rules that would require helicopters to stay over the water, or over major freeways, or industrial areas, and to keep away from residential areas, neighborhood/mall business districts, hospital districts, and universities.

Comment. We agree with the comments of the National Helicopter Noise Coalition that in some instances freeway have neighbors who are adversely impacted by helicopter flights along freeways. Drawing up permissible and/or mandatory routes for such flights will require local expertise, not available to the FAA at its D.C. headquarters or at its regional offices. Involving the actual interested public and their governments (usually city councils) seems appropriate & necessary.

- (6) Rules requiring helicopters to display prominent identification numbers so that they could be identified from the ground. We learn from the NHNC comments that helicopters supposedly are required to display ID numbers now, but either the rule is not enforced here or the numbers are too small to be visible from the ground. The numbers should be large enough to be read whenever the helicopter is at an altitude low enough to create intrusive noise on the ground.
  - (7) Each metropolitan area should have a helicopter-noise hot line (funded by the

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industry?) well publicized, for the public to use, to report offending helicopters.

- (8) It has been suggested and we pass it along that helicopters be required to carry a simple radio transponder that could be queried from the ground by a simple gadget, something that folks could buy cheaply at places like Radio Shack. This would allow citizens on the ground a reasonable way to identify these aircraft, so that identification can be accurately reported to a hot line or to the FAA direct.
- (9) In each metropolitan area, a unified listing of all helicopter identification numbers for locally based craft should be posted on a local World-Wide-Web website, thus making it practical for people on the ground to learn how to communicate direct to the owners of troublesome helicopters. There is doubtless some clever way to create a linkage between a phone hotline and a website.
- O-3. What impacts could restrictive air traffic control procedures have on operation of law enforcement helicopters, electronic news gathering helicopters, sightseeing tour helicopters, emergency medical services helicopters, corporate executive helicopters?
- A-3. Hopefully, the restrictions that we have suggested in Para. 2 above would significantly reduce the various unnecessary or marginally-useful activities referred to in the question.
- \* Law-enforcement helicopters should be the subject of a separate study, with input from law-enforcement agencies specifically sought. We have no expertise in law enforcement. We note that our city formerly maintained a fleet of three police helicopters but disbanded that fleet as not being cost-effective, as well as having extraordinary hazards for the officers involved, other aircraft, and people on the ground. Some of our members believe that helicopters are a valuable adjunct to ordinary city police methods, while others believe that law-enforcement helicopters are a much over-rated commodity, very expensive and very intrusive for the slight utility that they have.

Some law-enforcement-operated helicopters are used for rescue work and other emergency services, as well as police work, which is the case for the King County Sheriff's Department. Rescue & emergency work in densely-populated areas is usually well covered by the normal emergency service(s) – the Fire Department in our city. But for rural areas, especially in the foothills and mountains, helicopters have proven their worth. But should metropolitan areas be the homes for these aircraft? Should they not be based in the rural areas that they serve?

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\* News helicopters are for the most part a simple nuisance. They do nothing but provide entertainment for the television viewer. This is just another commercial activity & should enjoy no more priority than, say, hauling garbage by helicopter. They fly much too low, much too often, much too long, much too noisily.

Monitoring of major freeways for traffic conditions, & reporting those to the public, is better done by fixed-location video systems, which are in place in at least the Los Angeles and the Seattle metropolitan areas. There are no safety issues involved in a video camera, no noise issues, and the expense is probably no greater than maintaining fleets of helicopters. In our area, this system is relied on by all the radio news organizations for frequent reports on traffic conditions in the usual congested locations.

- \* Sight-seeing by helicopter (or any other form of powered aircraft) over the city is not a desireable activity. Any restrictions on such flights are to be welcomed and encouraged. The more so, the better.
- Emergency medical services helicopters should not be flying low over the city's residential districts. In our State, emergency flights usually (always?) fly from a small local hospital to a better-equipped regional hospital. Harborview, the King County hospital, receives most of these flights in our area, and it is adjacent to the downtown Seattle area, and its landing pad is between the hospital and the downtown, with a clear path over low buildings and open areas from the Sound and from the major north-south freeway. There is no particular reason why helicopters flying to such a facility should use routes that take them as a matter of course over the most densely settled areas, or that they should fly so very low. Sometimes there are genuine emergencies, where time truly is of the essence. Often, however, it is simply a matter of transferring a patient, and the patient is well-attended during the flight, and time is NOT of the essence. Especially offensive are so-called emergency flights that take place routinely at the same time, at very low levels, and usually in the early morning hours: these are "milk runs", not emergencies at all, and cause enormous resentment. State & local authorities should have the legal authority to suggest, to encourage, & ultimately to require that hospitals that are located in residential districts NOT go into (stay in) the business of accepting patients by helicopter: let the State and local authorities mandate that only hospitals appropriately sited be hubs of helicopter traffic. The FAA could either stay out of this issue, or could become an advocate with the helicopter industry for more sensitive routing.
- \* The corporate executive/government helicopters used as personal vehicles are uniquely offensive. Not only are they noisy all along their routes, and at their bases, but also they send a profoundly anti-democratic message, that is, that government has granted certain select people special privileges denied to the rest of us. This use of the space over our homes,

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places of work, and so on, is unnecessary.

Q-4. What are the recommended solutions for reduction of the effects of non-military helicopter noise?

A-4. With some sense of urgency, the FAA should, in co-operation with the civilaviation authorities in countries with good track records on overflight noise issues, start to devise new noise standards for helicopters. A phase-out program for the older models should be put in place; perhaps a severe tax could be imposed on helicopters over a certain age, ditto those exceeding the new Stage III noise levels when adopted.

Military helicopters should not be surplused to civilians, & when surplused to local/State government, should be surplused for limited purposes (forest-fire fighting, the State's National Guard, mountain rescue, and perhaps to the local disaster agency, for use only real emergencies

like major flooding, earthquakes, not just to fly around)

Perhaps a severe luxury tax should be placed on corporate commuter helicopters. Government officials should be forbidden to use helicopters for personal travel. Federal funds should not be available to localities for purchase of helicopters to be used

in urban areas.

Minimum operational altitudes should be set much higher for such urban overflights as are permitted.

Legislation should clearly authorize local governments to restrict and to forbid placement

of helicopter launching/landing facilities.

Sight-seeing flights over densely settled areas should be forbidden, or legislation should clearly allow the States to restrict & to forbid such flights.

Comment. We question whether the FAA has the staffing, the equipment, or the organizational structure to take on a general regulation of helicopter flights all over the 50 States. Our impression has been that FAA has all it can do to keep track of the scheduled commercial passenger flights, air-cargo operations, corporate jets, and light-plane traffic, without tackling helicopters. We question whether most helicopters are set up to communicate with the FAA's control towers. There would be little point to announcing rules if the necessary number of specially-trained controllers were not in place to direct compliance with those rules, especially in the absence of means for the general public to identify offending helicopters, in the absence of any place to which to report violations, and in the absence of any system for punishing pilots who deviate from the rules. It is our experience that no pilot in the King County area has ever been punished by the FAA for any deviation from any FAA rule or flight-control procedure. So,

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why should FAA take on a new, heavy burden of control, in a whole new field, when it has neither the means nor the will to enforce its orders?

Additional comment. The FAA should be looking at the problem of military helicopters as well. The FAA could be encouraging military users to reconsider their location of helicopter bases in the middle of cities. We do not understand, for example, why the U.S. Coast Guard has a helicopter facility virtually in downtown Seattle, from which it routinely makes noisy flights at very low altitudes over residential districts. At the least, it should stick to the salt water.

Some military facilities are now in the midst of densely-settled areas. That is becoming true of Fort Lewis, operated by the U.S. Army, and Camp Murray, operated by our State's Military Department. The FAA should be encouraging those in charge of such facilities to rethink their helicopter usage at such locations.

In closing, we would like to express our concern about the very poor public-involvement process employed by the FAA in this matter.

\_\_\_\_

First, we are stunned that the FAA does not recognize any of the technological advancements in communication made since Benjamin Franklin was postmaster of the British North American colonies. Why not allow submission by facsimile (the modern equivalent of the telegram)? Why not allow submission by e-mail? Why require triplicate copies? Most agencies, most businesses, and even many private citizens have copying machines these days; perhaps the FAA should consider looking into acquiring this type of equipment.

Second, the FAA should follow the lead of other public agencies and accept that a document is timely filed if it bears a postmark on or before the end of the comment period. Even the US IRS allows for that.

Third, the comment period is absurdly short, especially given the very poor notice (next point). Noise from aviation overflight is a neighborhood, local, community issue. Local governments — our natural protectors from environmental intrusion — have been systematically frozen out of the overflight noise issue. Affected citizens are therefore left only with their neighborhood groups and airport-concern organizations to speak for them on these matters. Most such groups meet only monthly, and often not at all in the Summer. Yet, FAA timed its notice for the middle of the Summer, and the notice was so short that many groups that might be meeting during these months still would not have time to put the matter on their agendas and

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send out proper notice to their constituencies. The FAA has been tolerating the helicopter nuisance for many years, so it is hard to suppose that there is suddenly some urgency about this.

Third, the actual giving of notice was terrible. It appears that the FAA chose to make no effort to get this notice into the hands of the people / groups that it KNOWS have overflight-noise and/or airport concerns. It would lengthen this comment unduly to provide full detail, but the FAA knows as well as we do what it could have done and what it chose not to do. Perhaps at a Congressional hearing there can be listed out all the airport-concern groups around the USA known to the FAA but NOT contacted on this matter. It is simply not acceptable to rely on a fine-print notice in the Federal Register as the be-all and end-all of a public-involvement process. Such poor notice will inevitably lead some to suppose that the FAA actually did not want any effective public involvement.

Yours truly,

Mike G. Rees

President

(in triplicate!)

LTR00-202

# **Department of Aviation**



RANDALL H. WALKER DIRECTOR ROSEMARY A. VASSILIADIS

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Rules Docket Office of the Chief Counsel Federal Aviation Administration 800 Independence Avenue, SW, Rm. 915H Washington, DC 20591

Re: Docket No. 30086

Dear Ladies and Gentlemen:

Enclosed for your review are Clark County, Nevada's comments for Docket Number 30086—Report to Congress on Effects of Nonmilitary Helicopter Noise on Individuals in Densely-Populated Areas in the Continental United States.

The Clark County Department of Aviation (DOA), owner and operator of six airports in southern Nevada, three of which are located within the Las Vegas Valley, currently addresses noise complaints associated with various types of aircraft operations ranging from large air carriers to helicopters. The number of noise complaints associated specifically with helicopter operations has been steadily increasing over the past few years. Although DOA staff continues to educate the public concerning helicopter routing and flight characteristics, and consistently works with the Federal Aviation Administration (FAA) and helicopter operators on integrating air traffic issues with community concerns, Clark County does not have the authority to resolve a majority of the issues expressed by Valley residents.

Since Clark County does not have the authority to amend helicopter flight procedures or restrict the number of helicopter operations without being at risk of violating federal grant assurances, the enclosed Resolution contains a number of recommendations the FAA could implement that may help resolve many local helicopter noise issues, while still allowing helicopter operations to grow. DOA will also be conducting a Helicopter Noise Assessment Study which will entail (1) two weeks of noise monitoring at four locations along the established helicopter routes, and (2) modeling the noise impacts via the Integrated Noise Model (INM) for three altitude scenarios (300 feet AGL, 800 feet AGL, and 1000 feet AGL).



Rules Docket July 18, 2000 Page 2

We look forward to continuing to work with the FAA and the helicopter industry to seek common resolutions to this issue. We will also be participating in the Public Workshop to be held in Washington, D.C. on August 16, 2000.

Respectfully submitted,

RANDALL H. WALKER

Director of Aviation

JJ:js

**Enclosures** 

cc w/ enclosures: Nevada Congressional Delegation

**Board of County Commissioners** 

Dale Askew

Rosemary A. Vassiliadis

Tina Quigley Curtis Myles Jeff Jacquart Mike Fay Bob Brown

# RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS RECOMMENDING ADDITIONAL CONTROL MEASURES TO THE FEDERAL AVIATION ADMINISTRATION CONCERNING NONMILITARY HELICOPTER OPERATIONS (FAA, RULES DOCKET NO. 30086)

WHEREAS, Clark County owns and operates six (6) public-use airports within unincorporated Clark County, three (3) of which are located within urbanized areas of the Las Vegas Valley (McCarran International Airport, North Las Vegas Airport, and Henderson Executive Airport); and

WHEREAS, helicopter operations have increased significantly at the urban airports, specifically helicopter operations which originate at McCarran International Airport and provide tours of the Grand Canyon, Hoover Dam, and/or the Las Vegas "Strip", and

WHEREAS, the number of noise complaints made by Valley residents impacted by helicopter overflights, specifically those associated with sightseeing tours, have been steadily increasing; and

WHEREAS, Clark County has no authority to either require helicopter operators to fly at higher altitudes or to amend flight procedures; and

WHEREAS, Clark County has no authority to issue citations to helicopter pilots who do not fly agreed-upon "community friendly" routes; and

WHEREAS, Clark County can neither limit the number of helicopter operations occurring at its public-use airports nor restrict noisy helicopters from operating at said facilities without being at risk of violating grant assurances, and

WHEREAS, Clark County wishes to continue to balance the needs of the air transportation system with the desires of Clark County residents to not be subject to significant helicopter noise, and the implementation of the recommendations listed below could provide relief to residents impacted by helicopter operations, while still providing the opportunity for helicopter operations to grow;

NOW, THEREFORE, BE IT RESOLVED, that the Clark County Board of County Commissioners recommends to the Federal Aviation Administration, as it pertains to Docket No. 30086:

That the minimum altitude for non-emergency or non-law enforcement helicopter operations (i.e., electronic news gathering, sightseeing tours, and corporate executive or other private flights) equal that established for fixed-wing aircraft; or 1,000 feet above ground level over congested areas and 500 feet above ground level over non-congested areas.

- That the minimum altitude for non-emergency or non-law enforcement helicopter **(2)** operations be attained by helicopter operators prior to any lateral movement.
- That a Stage 3 noise level standard be established for helicopters under 14 CFR (3) Part 36---Noise Levels for U.S. Certificated and Foreign Aircraft.
- That a time-table be established that requires all civilian helicopters operating (4) within the United States meet the Stage 3 noise level requirements for helicopters, similar to the nationally-required phase-out of civilian Stage 2 aircraft weighing more than 75,000 pounds.
- That local airport authorities be authorized to issue citations, penalties, or other (5) enforcement actions to pilots who purposefully violate community friendly helicopter flight corridors.

PASSED, ADOPTED, AND APPROVED this 18th day of July, 2000.

CLARK COUNTY, NEVADA

ATTEST:

**Board of County Commissioners** 

County Clerk

Approved as to form:

On this day of

a Notary Public in and for said state, personally appeared Bruce L. Woodbury

personally known to me to be the person who executed the above instrument, and executed the acknowledged that \_\_he\_

same for purposes herein stated.

E. LEE THOMSON

Chief Deputy District Attorney

BARBARA J. WAGNER Notary Public - Nevada No. 98-35084-1 y appt. exp. Dec. 21, 2002



# HELICOPTER NOISE COALITION OF NEW YORK CITY



Comments to Docket No. 30086 – FAA Study to Reduce the Effects of Nonmilitary Helicopter Noise – July 20, 2000

# I. Study Focus

The Helicopter Noise Coalition of New York City (HNC) receives helicopter noise complaints from individuals and groups throughout the USA, as well as within the NYC metropolitan area. This study asks what types of helicopter operations elicit negative responses by individuals in densely populated areas. Our answer is -- all. A helicopter is a helicopter. The noise helicopters emit is independent of mission. HNC regularly receives complaints regarding all types of helicopters -- tour, corporate, ENG, commercial, police. Furthermore, complaints are not limited to non-military helicopters, densely populated areas, the continental U. S., or areas with particularly heavy helicopter traffic. Helicopters disturb people wherever they hear them -- in residences, businesses, parks; in Hawaii, Alaska or the continental U. S.; in small towns, suburbs, large cities or wilderness areas; whatever the helicopter mission. Helicopters are detrimental to people on the ground. Throughout the U.S. people have been complaining about all types of helicopters for many years. As helicopter traffic proliferates, so do the complaints they engender (people generally understand that emergency helicopters are necessary).

# II. Coordination with GAO Airport Noise Study

The Government Accounting Office (GAO) is currently conducting a study on airport noise in the U.S. (legislation attached). This study is mandated to examine aircraft noise measurement methodologies, the threshold of aircraft noise at which health becomes affected, the effectiveness of aircraft noise abatement procedures in the U.S., the impact of aircraft noise on communities — including schools, the aircraft noise abatement practices of the FAA and whether such practices fairly and accurately reflect the burden of noise on communities, and other items specified in an April 30, 1999 Congressional memo to the GAO. The Director of this project is Dr. Gerald L. Dillingham, GAO, tel. 202/512-3650. We strongly recommend that the FAA study be coordinated with the GAO study, given the thoroughness and specificity of the GAO mandate and its related focus on airplane and airport noise.

# III. Advisory Council

Just as the GAO study is soliciting input from scientists and community members familiar with airport noise issues, we urge the FAA to constitute an Advisory Council for the FAA study. Members should be drawn from community residents and groups, scientists and noise consultants knowledgeable about helicopter noise and impacts. HNC would like to participate in such a group. In addition we suggest the following be included: a representative from the Natural Resources Defense Council (NRDC), Dr. Arline Bronzaft, Dr. James Cowan, Gerald Silver. HNC would also like to participate in any focus groups included in this study.

# IV. Nonmilitary Helicopter Operations Assessment

The extent of the helicopter problem nationwide requires thorough documentation, including: a count of helicopters in the national airspace and at heliports; helicopter routes; a noise map showing communities impacted by helicopter noise; helicopter noise monitoring at affected residences, parks and monuments, and at heliports.

NYC, the test site selected for this study, is a good place to start. Currently no system exists in NYC to count or monitor helicopters in NYC airspace. Such a system is desperately needed. Also needed is comprehensive helicopter noise monitoring at city residences, parks and heliports (see pilot study discussion below). The HNC 1997 helicopter noise study (at Rivergate apartments, 401 East 34th Street near the 34th Street heliport) found helicopter noise levels of 94 dBA on apartment terraces and 86dBA inside apartments at a time when the heliport was unusually underutilized (report attached).

# V. Helicopter Noise Impact Analysis - Literature Survey

To understand this issue the FAA must conduct a thorough review of the relevant research literature on aircraft noise impacts. While most aircraft noise studies have been done on airplane rather than helicopter noise they are still relevant given that both are aircraft. In fact, according to NRDC, the public perceives helicopter noise to be twice as loud as comparable decibel-level fixed-wing aircraft due to the distinctive low frequency, vibration-inducing blade slap characteristics unique to helicopters. Other material in the noise literature may also be germane.

We particularly urge the FAA to consult the recent NRDC report on helicopter noise impacts "Needless Noise: The Negative Impacts of Helicopter Traffic in the New York City and Tristate Region", December 1999. In this report NRDC summarizes the research literature. Negative noise-based aircraft and airport effects include sleep deprivation, impacts on cardiovascular and gastrointestinal functioning, reduced learning abilities in school children, and disruption of speech and relaxation. People exposed to aircraft noise suffer headaches, irritability, fatigue, psychological stress and poor work performance. In addition, HNC has been contacted by area residents concerned about

structural damage to their homes attributed to helicopter-induced vibrations, and air pollution and fumes from helicopters and heliports.

HNC agrees with all the recommendations of the excellent NRDC study save one—the routing of NYC helicopters over waterways. People live in the middle of the East Rivers as well as along the banks of the East and Hudson Rivers and helicopters on the rivers are clearly audible for blocks inland, so routing helicopters on the rivers is not away from residential neighborhoods.

# VI. Helicopter Noise Impact Analysis - Pilot Study

Since the literature on helicopter impacts is limited we urge the FAA to conduct a pilot study in NYC, the most heavily helicopter trafficked area of the country and the site of particularly active community advocacy on this issue (including HNC). The pilot study should be designed in consultation with scientists familiar with the aircraft noise literature: e.g. Dr. Arline Bronzaft, Dr. Gary Evans, Dr. Norall Stewart. Such an appropriately designed study will identify the impacts on individuals in the metro-NY area (including school children), utilizing interviews, questionnaires and/or other data collection methods. Possible locales for inclusion are Roosevelt Island (4-6pm, weekdays), Rivergate apartments, Rockefeller University, Rusk Institute for Rehabilitative Medicine/NYU Medical Center, Battery Park, the Statue of Liberty monument, Hudson River Park, Brooklyn Heights, neighborhoods near the George Washington Bridge, Manhattan's Upper West Side, Staten Island, etc. Outreach to impacted neighborhoods can be facilitated through community groups such as HNC, community boards, elected officials, the NYC Helicopter Oversight Committee, Helicopter Task Forces and community newspapers.

## VII. Recommended Solutions for Reducing the Effects of Helicopter Noise

We direct the FAA to the recommendations of the NRDC "Needless Noise" report, many of which are included below.

Operational Level Recommendations:

- \* Minimum altitudes nationwide or by geographical area
- \* Required helicopter flight paths away from residential neighborhoods
- \* Limited hovering duration
- \* Pooling requirements for electronic news gathering (ENG) special events coverage
- \* Curfews for heliports and flyovers
- \* Ground-based restrictions for heliports concerning hours of operation, idling time, training and engine run up and maintenance
- \* Required noise abatement procedures for takeoffs, flyovers and landings (reducing air speed, adjusting rate of descent, flying at highest practical altitude, altering flight paths)
  - \* Permanent noise monitoring at heliports
  - \* Noise monitoring in affected neighborhoods and parks

\* Helicopter identification clearly readable from the ground (to aid the public in identifying offending helicopters)

Policy Level Recommendations:

- \*The GAO study is addressing the noise assessment practices of the FAA regarding airplane noise and whether these practices unduly burden communities. The same must be done for helicopter noise through this study.
  - \* Ditto the threshold of helicopter noise at which health begins to be affected.
- \* The FAA must implement a different noise metric for helicopter noise. The existing measure, LDN, is an average over time whereas people hear and are disturbed by discrete, single-event noises not averages. Furthermore, the existing metric minimizes low frequency noise, a key ingredient of the helicopter noise signature (which people find particularly disturbing).
  - \* The implementation of Stage 3 requirements for helicopters.
- \* The FAA should consider increasing regulated airspace (e.g. over the East and Hudson Rivers and southern Manhattan) to reduce traffic.
- \* The FAA should release NYC from the federal grant assurance requirement at the Downtown Manhattan heliport so that the city can implement its policy there denying access to tour helicopters at city heliports before 2007 when the federal grant assurances expire.

### VII. Conclusion

This crucial study must be designed and conducted with great care to maximize its utility. Community input and input from scientific experts are key to its success.

New York City can be considered a special case given the volume of helicopter traffic (in addition to airplane traffic) that residents experience and so requires special consideration including unique regulations as required.

HNC believes that the negative impacts of non-emergency helicopters are so severe that they should be eliminated from metro-NYC airspace via a non-emergency helicopter no-fly zone including NYC 5 boroughs, land and waterways.

for A. Held Joy A. Held President 212/628-3126 tel & fax

Attachments: HNC Noise Study GAO Study



# HELICOPTER NOISE COALITION OF NEW YORK CITY

THE EFFECTS OF NOISE GENERATED BY OPERATIONS AT THE EAST 34TH STREET HELIPORT ON RESIDENTS OF THE RIVERGATE APARTMENTS

### I. INTRODUCTION

Noise monitoring was performed at the Rivergate Apartments which resulted in documenting a 15 to 26 dBA increase of noise due to the operation of helicopters at the East 34th Street Heliport. These values agree with those reported in the 1995 Final Environmental Impact Statement (FEIS) for the heliport, in which increases of up to 30 dBA at the Rivergate Apartments are documented. The monitored values are also in agreement with those reported in a 1992 NYU study on the effects of the heliport. In addition to all other factors, considering that this area is one of the loudest in Manhattan without the heliport noise (because of its proximity to the FDR Drive), such increases in background noise levels begin to push the envelope of hazardous environments (where background levels are in excess of 85 dBA). The added factor of the low frequency pulsing of the helicopter noise in this area creates a situation that is documented as being clearly intrusive and clearly violating all relevant regulations and standards by all who evaluate it. With the impending closing and rerouting of operations associated with the East 60th Street Heliport, there will be a dramatic increase in occurrences of the type of noise monitored in this study and the others referenced.

### II. AUTHOR'S QUALIFICATIONS

As the author of this report, I am a board-certified noise control engineer with a master's degree in acoustics and more than 15 years of experience on hundreds of acoustical projects nationwide. I have consulted to public agencies, architects, engineers, industrial personnel, and attorneys in all aspects of noise control and environmental noise assessment. I am the author of Handbook of Environmental Acoustics (New York: Van Nostrand Reinhold, 1994) as well as many nationally published articles on the subject of noise. I teach a college course in acoustics and have lectured at national conventions on the subject. As relevant to this study, I have written more than 100 Environmental Impact Statement noise sections for all types of projects, I assisted in writing the latest version of New York City's noise assessment guidelines (as are published in the 1993 CEQR Technical Manual), and I worked for a major helicopter manufacturer for over 3 years in their noise division. My work for this helicopter manufacturer allowed me to become intimately familiar with the noise generated by all helicopters since I participated in many tests involving all helicopter manufacturers. participated in environmental noise studies involving operations at the East 60th Street Heliport and the East 34th Street Heliport in the early 1990's. A more expanded version of my resume is included separately from this report.

> For more information call: Joy Held, HNC President at 212/628-3126

### III. METHODOLOGY

This report summarizes the results of former studies and reconfirms their conclusions through limited monitoring sessions, interviews with residents, and references to standard guidelines and regulations.

The Rivergate Apartments are located between East 34th and East 35th Streets and between First Avenue and the FDR Drive, approximately 250 feet from the heliport. The heliport is one of four major heliports in Manhattan serving the area (the others of which are the East 60th Street Heliport, the West 30th Street Heliport and the Downtown Manhattan Heliport). According to data supplied by the New York City Economic Development Corporation (EDC), this heliport saw more operations (in terms of helicopter takeoffs and landings) than any of the other three major heliports in Manhattan with 53,973 operations in 1995, accounting for 38 percent of all helicopter operations in the system. The East 60th Street Heliport, having 22,833 helicopter operations in 1995 (according to the EDC), is planned to be closed by the end of this year (1997). According to EDC personnel and their consultants (Edwards & Kelcey), all of the helicopter operations currently at the East 60th Street Heliport will be transferred to the East 34th Street Heliport following the closing of the East 60th Street facility.

Current conditions at the heliport have minimal operations, principally because National Helicopter Corporation (NHC) was evicted from the facility in August of 1997. It is our understanding that NHC is planning to return to this heliport as soon as it legally can. This, combined with the information stated above, leaves the potential open for a dramatic increase in the intrusiveness of the heliport's operations on the lives of nearby residents. This report documents and reconfirms noise levels generated by the helicopter operations, substantiates the intrusion of the associated noise on the lives of residents in the area, and forecasts the potential for future intrusions based on the probable increase in helicopter traffic in the area.

Some background information on noise descriptors and the procedures followed in this study is included below.

### A. A-Weighted Sound Level (dBA)

Noise is typically measured in terms of sound pressure level (SPL) in units of decibels (dB), defined as 20 times the logarithm (to the base ten) of the ratio of the root-mean-square (rms) sound pressure to a standard rms reference pressure corresponding to the threshold of human hearing. Since loudness is important in the assessment of the effects of noise on people, the dependence of loudness on frequency must be taken into account in the noise scale used in environmental assessments. One of the simplified scales that accounts for the dependence of perceived loudness on frequency is the A-weighting network in the measurement system which simulates the response of the human hearing mechanism. For most noise assessments, the A-weighted SPL, denoted in units of dBA, is used because of its widespread recognition and its close correlation with human perception. In the current study, all measured noise levels are reported in units of dBA. Noise levels of common sources in dBA are presented in Table 1.

Table 1. NOISE LEVELS OF COMMON SOURCES

Sound Source	SPL (dBA)
Air Raid Siren @ 50'(Threshold of Pain)	120
Maximum Levels at Rock Concerts (Rear Seats)	110
On Platform by Passing Subway Train	100
On Sidewalk by Passing Heavy Truck or Bus	90
On Sidewalk by Typical Highway	80
On Sidewalk by Passing Automobiles with Mufflers	70
Typical Urban Area Background/ Busy Office	60
Typical Suburban Area Background	50
Quiet Suburban Area at Night	40
Typical Rural Area at Night	30
Isolated Broadcast Studio	20
Audiometric (Hearing Testing) Booth	10
Threshold of Hearing without Hearing Damage	0

Notes: A change in 3 dBA is a just-noticeable change in SPL.
A 10 dBA change is perceived as a doubling or halving in SPL.

# B. Environmental Noise Descriptors

There are several ways in which noise is described in environmental assessments. The most common descriptors used are Leq, Ldn, Ln, and Lmax. All of these values are in units of dBA.

Leq is the equivalent level, defined as the level of continuous sound containing the same amount of acoustic energy as the actual fluctuating sound over the same period of time. It can be thought of as the level corresponding to the average energy of sound during a measurement period. The measurement time period is usually denoted in parentheses in terms of hours. Therefore, Leq(1) corresponds to the Leq for a 1-hour period. The Federal Highway Administration (FHWA) recommends the use of the Leq(1) for the loudest hour of operation as the noise descriptor for use in environmental noise assessments involving traffic sources on highways. The New York City Noise Code also uses the Leq(1) for noise limitations with respect to zoning, as is discussed below.

Ldn is the day-night equivalent sound level, defined as the 24-hour Leq with a factor of 10 dBA added to all sound levels generated between the hours of 10:00 PM and 7:00 AM. This nighttime penalty is intended to account for the fact that noise at night, when most people are trying to sleep, is judged more annoying than the same noise would be during the day. Ldn is a long-term descriptor of the potential annoyance and has been adopted as the principal environmental noise descriptor by such federal agencies as the Environmental Protection Agency (EPA), the Department of Housing and Urban Development (HUD), the Federal Aviation Administration (FAA), the Federal Transit Administration (FTA), the Department of Defense (DoD), and the Veteran's Administration (VA). The New York City Department of Environmental Protection (NYCDEP) also uses Ldn to assess long-term rail and aircraft noise impacts.

Ln is the percentile level, defined as the sound level exceeded n percent of the measurement time period, where n is a positive number between 0 and 100, noninclusive. It is normal practice to describe several important features of fluctuating or time-varying noise using these statistical quantities. As for Leq, the Ln values should be qualified with a time period in terms of hours in parentheses. The most commonly used percentile levels are L1, L10, L50, and L90. Discrete event maximum levels are represented by L1 (the level exceeded 1% of the time) when the measurement period is less than 1 hour and noise levels are not fluctuating significantly. L10 represents the noise level exceeded 10 percent of the measurement time period and is normally considered to be the mean of the peak noise levels during the passage of vehicles on highways. L10(1) is the current descriptor used for traffic noise impact assessment by the NYCDEP for proposed projects in New York City. L50 is the median level and L90 represents the background level when levels are not fluctuating significantly. Although these descriptors are not used in this report, these explanations may be helpful when reviewing the other reports that are referenced herein.

Lmax is the maximum instantaneous noise level recorded during a measurement session. Lmax values are the simplest to record and are typically used as not-to-exceed limits in municipal noise ordinances. These values were recorded herein for helicopter operations to establish and reconfirm the increase in noise levels associated with these discrete operations.

# C. Verification of Existing Conditions

### 1. Site Description

The East 34th Street Heliport is located just south of East 34th Street between the East River and the Franklin Delano Roosevelt (FDR) Drive in Manhattan, directly across the FDR Drive from the NYU Medical Center. The Rivergate Apartments are located between East 34th and East 35th Streets and between First Avenue and the FDR Drive, approximately 250 feet from the heliport. The heliport is in a manufacturing (M2-3) zone and the Rivergate Apartments are in a commercial (C1-9) zone; therefore, both sites of interest are in an N-3 ANQZ (according to Section 24-243 of the New York City Noise Code). The current dominant noise sources in the area are the traffic on the FDR Drive and the helicopter operations at the heliport. There is a clear line-of-sight between the heliport and the apartments facing the heliport.

### 2. Selection of Noise Monitoring Locations

Three noise monitoring locations were chosen for monitoring of background noise (without the helicopter operations) and the maximum levels generated by the helicopter operations at the Rivergate Apartments. These included apartments that have a direct line-of-sight with the heliport at different elevations to establish the worst case. Apartments S12J (on the 12th floor), S18H (on the 18th floor), and S21J (on the 21st floor) were chosen for monitoring. Since noise levels were monitored on the 18th floor of the building for the City's study, this location was also chosen as a comparison point.

### 3. Equipment Used in Noise Monitoring

A type 1 (re: ANSI S1.4-1983) Larson Davis Labs Model 800B sound level meter (Serial Number 1179) and a type 2 (re: ANSI S1.4-1983) Metrosonics Model dB-308 sound level meter (Serial Number 2500) with windscreens attached were used for the monitoring. They were calibrated before and after measurements with a Larson Davis Labs Model CA250 Precision Acoustic Calibrator (Serial Number 2337) and a Metrosonics Model CL-304 calibrator (Serial Number 2681). The weather was clear with light winds, and temperatures were in the 60 to 70 degree Fahrenheit range. All measurement methods were in conformance with accepted industry practices.

# 4. Noise Monitoring

Noise monitoring at three noise receptor locations was performed over various time periods on September 25, 26, and 29, and October 7 and 8, 1997. Readings were recorded both outside on balconies and inside apartments at a distance of 3 feet from open windows closest to the heliport, as required by the New York City Noise Code. The residents in each of the monitored apartments were present for all measurements and have stated that the noise levels monitored, as generated by the heliport, were typical of those that they hear consistently in their apartments.

### D. Previous Relevant Studies

Two major studies were performed over the past five years that clearly document the noise generated by the heliport. These studies are documented in *Final Environmental Impact Statement - East 34th Street Heliport* (CEQR Report No. 83-078, dated December 28, 1995) and *NYU Medical Center - Air Quality and Noise Effects from the East 34th Street Heliport* (KMC Report No. 92-05, dated December 1992). The conclusions of these studies that are relevant to this report are discussed below:

# 1. East 34th Street Heliport Final Environmental Impact Statement (FEIS)

The executive summary of the FEIS (on page S-7) states that "the noise generated by helicopters using the Heliport on an event-by-event basis when superimposed on the relatively uniform traffic and background noise in the area is intrusive and readily noticeable." This statement is supported by the data in the FEIS which was recorded and predicted for the Rivergate Apartments. Cited in the document are noise levels between 25 and 30 dBA above the background levels at the Rivergate site, based on the 1993 analysis (on page III.E-21). The existing (1993) and projected (1996) levels (including a significant decrease - almost halving - in heliport operations between 1993 and 1996) are each stated to provide "a significant impact on 1-hour equivalent noise levels" for noise-sensitive locations within 650 feet of the heliport (recall that the Rivergate Apartments are approximately 250 feet from the heliport). The data in the FEIS clearly state that the NYCDEP noise level increase criteria have been and are being violated by the heliport's operations at the Rivergate Apartment site, as are the ANQZ limits for

the N-3 category that the area falls under. This is the case for average, as well as peak day, heliport traffic. No mitigation is offered in this report.

### 2. NYU Medical Center Report

The NYU report, although dealing with a building across East 34th Street from the Rivergate Apartments, offers similar data to that offered by the FEIS. Noise levels were monitored (in 1992) on the 12th floor of the Medical Center, resulting in up to a 20 dBA increase in noise levels above the background with helicopter operations.

#### IV. CHARACTERISTICS OF HELICOPTER NOISE

### A. Effects of Noise on People

Quantitative information on the effects of airborne noise on people is well documented. If sufficiently loud, noise can adversely affect people in a number of ways. For example, noise may interfere with human activities such as sleep, speech communication, and tasks requiring concentration or coordination. If sufficiently loud, noise can cause hearing loss, though most environmental noise assessments involve noise levels that are below such ranges. In the noise level ranges typically confronted by the residents closest to the heliport, noise may cause annoyance, anxiety, and a host of stress-related illnesses. Several noise scales and rating methods are used to quantify these effects. The scales and methods consider factors such as loudness, duration, time of occurrence, and changes of noise level with time.

## B. Human Perception and Community Response to Changes in Noise Levels

The average ability of an individual to perceive changes in noise levels is well documented. Generally, changes in noise levels of less than 3 dBA are barely perceptible to most listeners, whereas 10 dBA changes are normally perceived as doublings or halvings of noise levels. These guidelines permit direct estimation of an individual's probable perception of changes in noise levels. The relative change in noise levels (that is, the increase in noise level caused by a sound source) describes the annoyance of a noise more appropriately than an absolute sound level (as is used in most noise regulations) for sound levels below potentially hazardous limits.

Various government and research agencies have published criteria that relate changes in noise levels to community response. One commonly applied criterion for estimating response is incorporated into the community response scale proposed by the U.S. Environmental Protection Agency (see Table 2). This scale relates changes in noise level to the degree of community response and permits direct estimation of the probable response of a community to predicted change in noise level.

Table 2. COMMUNITY RESPONSE TO INCREASES IN NOISE LEVELS

Change (dBA)	Community Reaction
0	No observed reaction
5	Sporadic complaints
10	Widespread complaints
15	Threats of community action
20	Vigorous community action

Source: Environmental Protection Agency. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. Report No. 550/9-74-004, Washington, DC: EPA Office of Noise Abatement and Control, 1974.

### C. The Unique Character of Helicopter Noise

The noise data listed herein provides clear indications of the intrusive nature of the helicopter noise with regard to continuous sounds in the human speech frequency range, roughly between 500 and 4000 Hertz. There are, however, additional characteristics unique to helicopter noise that make this more intrusive to people than continuous sounds at the quoted levels would be.

Helicopters have several mechanisms for generating noise. The dominant noise generators in helicopters are the rotor systems and the engine systems. engines generate noise that is fairly uniform with frequency, similar to the characteristics of vehicular engine and exhaust noise. It is the rotor systems, and especially the main rotor system, that generates the most intrusive and unique aspects of the helicopter noise signature. As helicopter rotor blades spin through the air, they generate turbulence in that air which creates a large pressure change behind each blade. When the next rotor blade confronts this pressure change, it reacts by generating an impulsive noise that sounds like a slap or crack. This sound quickly pulses on and off as the rotor blades turn. Because of the aerodynamics of the operation of the rotor system in the atmosphere, this slapping noise tends to be more pronounced when helicopters are landing and taking off. It is this sound that is most pronounced for the residents in the Rivergate Apartments because of their proximity to the heliport. This sound is generally low in frequency (below 200 Hertz) and therefore, in addition to being annoying because of its audible content, it becomes an additional annoyance to people because it excites building components to cause rattling vibration of walls, windows, doors, ducts, and hanging articles.

#### V. RESULTS OF THE STUDY

#### A. Applicable Noise Standards and Criteria

Noise levels associated with the operation of the heliport are subject to the emission source provisions of the New York City Noise Code. Other standards and guidelines promulgated by federal agencies may not apply to this facility, but are useful to review for comparison.

#### 1. New York City Noise Code

The New York City Noise Code promulgates SPL standards for motor vehicles, air compressors, and paving breakers; requires that all exhausts are muffled; and prohibits all unnecessary noise near schools, hospitals, residences, or courts. The code further limits construction activities to weekdays between 7 AM and 6 PM.

In 1979, Section 1403.3-6.01 of the code was re-enacted as Local Law No. 64. This new law established ambient noise quality criteria and standards based on existing land use zoning designations. Conformance with the noise level limits contained in the law is determined by considering noise emitted directly from activities within the boundaries of a facility. These limitations are shown in Table 3. Although aircraft overflights are exempt from these criteria, idling, hovering, and takeoff and landing activities are not.

Table 3. NEW YORK CITY AMBIENT NOISE QUALITY ZONE CRITERIA (in Leq(1))

Ambient Noise Quality Zone (ANQZ)	Daytime (7AM-10PM) Limit, in dBA	Nighttime (10PM-7AM) Limit, in dBA
N-1 (R-1 to R-3 residential zones)	60	50
N-2 (R-4 to R-10 residential zones)	65	55
N-3 (all commercial and manufacturing zones)	70	70

Source: Section 24-243 of the New York City Noise Code

## 2. New York CEPO-CEQR Noise Standards

The NYCDEP, Division of Noise Abatement has set external noise exposure standards to define the impacts of projects. A relevant point in the NYCDEP criteria is that they consider (as stated in Section 3R.410 of the City Environmental Quality Review Technical Manual of December 1993) an increase of 3 to 5 dBA or more in Leq(1) at a noise-sensitive location to constitute a significant adverse impact.

#### 3. Noise Control Act of 1972

As a result of the Noise Control Act of 1972, a document entitled Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety was published in 1974 by the EPA. Table 4 shows the EPA limits published in this document. These limits do not constitute enforceable federal regulations or standards. Nevertheless, the noise levels identified by EPA represent valid criteria for evaluating the effect of project noise on public health and welfare.

Table 4. NOISE LEVELS IDENTIFIED AS REQUISITE TO PROTECT PUBLIC HEALTH AND WELFARE WITH AN ADEQUATE MARGIN OF SAFETY

Reaction Hearing Loss	Level Leq(24)<70 dBA	Area All areas
Outdoor activity interference and annoyance	Leq(24) <u>&lt;</u> 55 dBA	Outdoor areas where people spend limited amounts of time, such as school yards, playgrounds, etc.
	Ldn <u>&lt;</u> 55 dBA	Outdoors in residential areas and farms, other areas where people spend widely varying amounts of time, and other places in which quiet is a basis for use.
Indoor activity interference and annoyance	Leq(24)<45 dBA	Indoor areas, other than residential, with human activities, such as schools, etc.
	Ldn <u>&lt;</u> 45 dBA	Indoor residential areas

Source: Environmental Protection Agency. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. Report No. 550/9-74-004, Washington, DC: EPA Office of Noise Abatement and Control, 1974.

#### B. Monitored Data

Table 5 summarizes the noise levels recorded at the three apartments for this study.

Table 5. MONITORED NOISE LEVELS FROM HELICOPTER OPERATIONS (in dBA)

Apartment Location	Background Sound Level	Lmax with Helicopter Operations	Increase in Sound Level from Helicopter Operations
S12J Inside	65 - 67	86	19 - 21
S18H Inside	64 - 65	84	19 - 20
S18H Outside	67 - 70	85	15 - 18
S21J Inside	60 - 65	85	15 - 24
S21J Outside	68 - 73	94	18 - 26

For reference, an increase of 20 dBA translates to increasing the loudness by a factor of 4. Therefore, Table 5 lists monitored noise levels (caused by helicopter operations) that are more than 4 times as loud as the noise levels with the other background sounds (including traffic on the FDR Drive).

A few other points are worth noting. The sound level increases quoted in the far right column of Table 5 represent the ranges of increases monitored for all sessions while the Lmax column lists the highest level recorded from all sessions. For that reason, the increases in the far right column cannot be derived by using the other numbers in the table.

These data were monitored for single events that are typical of those heard by residents in their respective apartments. Independent of the number of operations and the type of helicopter, these data show that the EPA guidelines for community reaction to changes in noise levels exceed those corresponding to situations prompting "vigorous community action." As is shown in Table 2, this is highest level of community reaction listed by the EPA.

#### C. Conclusions

Noise monitoring was performed at the Rivergate Apartments which resulted in documenting a 15 to 26 dBA increase of noise due to the operation of helicopters at the East 34th Street Heliport. These values agree with those reported in the 1995 FEIS for the heliport, in which increases of up to 30 dBA at the Rivergate Apartments are documented. The monitored values are also in agreement with those reported in a 1992 NYU study on the effects of the heliport. In addition to all other factors, considering that this area is one of the loudest in Manhattan

without the heliport noise (because of its proximity to the FDR Drive), such increases in background noise levels begin to push the envelope of hazardous environments (where background levels are in excess of 85 dBA). The added factor of the low frequency pulsing of the helicopter noise in this area creates a situation that is documented as being clearly intrusive and clearly violating all relevant regulations and standards by all who evaluate it. With the impending closing and rerouting of operations associated with the East 60th Street Heliport, there will be a dramatic increase in occurrences of the type of noise monitored in this study and the others referenced.

Respectfully pubmitted,

ames P. Cowan, INCE.Bd.Cert.

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worn to and subscribed before in

NOTARIAL SEAL KATHLEEN M. MITCHELL. Notary Public Newtown, Bucks County My Commission Expires August 20, 2001

Karnen 471 Mitchell

For more information call: Joy Held, HNC President at 212/628-3126

HELICOPTER NO. 414 East 65 St NEW YORK NY 10	ISE COALITION OF NYC ludes any written agree- t Apt 6J 0021-7144 Page; the lessor and the debt- r. as lessee, have expressed in the agreement or in	
4 a	substantially contemporaneous writing that the	
5 ag	greement is to be treated as a lease for Federal in-	
6 <b>c</b> c	ome tax purposes; and	
7	"(2) the term 'security interest' means a pur-	
8 ch	ase-money equipment security interest.".	
9 SEC. 74	5. GENERAL ACCOUNTING OFFICE AIRPORT NOISE	To
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11 (a)	) IN GENERAL.—The Comptroller General of the	
12 United	States shall conduct a study on airport noise in	
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20	(3) the effectiveness of noise abatement pro-	
21 gran	ms at airports located in the United States;	
22	(4) the impacts of aircraft noise on commu-	
23 nitie	es, including schools;	
24	(5) the noise assessment practices of the Fed-	
25 eral	Aviation Administration and whether such prac-	

•	7-05
1	tices fairly and accurately reflect the burden of noise
2	on communities: and
3	(6) the items requested to be examined by cer-
4	tain members of the House of Representatives in a
5	letter relating to aircraft noise to the Comptroller
6	General dated April 30, 1999.
7	(c) REPORT.—Not later than 1 year after the date
<b>8</b> o	f enactment of this Act, the Comptroller General shall
9 tr	ansmit to Congress a report on the results of the study.
10	C. 74 VOIS STUDY OF SKY HARLOR AIRPORT, PHOE-
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12	(a) In General.—The Administrator that conduct
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18	(1) In General. Not late than 90 valuefter
19	lik over of enactment on this Act, the Administrate
20	Can transport Control Annual
21	results of the study conducted under subsection (1)
22	recomb eduction comments.
23	cramples over populated areas in the Phoenix, Asi
74	zona, region

July 24, 2000

Federal Aviation Administration Office of Chief Counsel Attn: Rules Docket, Docket No. 30086 800 Independence Avenue, SW Room 915H Washington, DC 20591 (9)



Dear Sir:

The Association of Air Medical Services (AAMS) appreciates the opportunity to submit comments in response to the June 23, 2000, Federal Register (FR 39220) announcement concerning noise. The Federal Aviation Administration (FAA) is tasked with identifying recommendations for the reduction of the effects of nonmilitary helicopter noise that impacts individuals of densely populated areas in the United States. We believe the following comments will assist the FAA in fulfilling this requirement.

AAMS comprises hospital, public agency and private sector operators of air ambulances and is therefore well qualified to address the important issues raised in the announcement. Helicopter and fixed-wing air ambulances now transport more than 300,000 critically ill and injured patients annually.

The Federal Register announcement states, "The major goal of the study is to identify the type of operations (either law enforcement, electronic news gathering, sightseeing tour, emergency medical services (EMS), or corporate executive commute) that elicit negative response by individuals for typical densely populated areas..." The ability to achieve this goal may be flawed since most people who view a helicopter passing overhead could not identify the type of operation being conducted, and likely could not distinguish whether the helicopter in question is military or civilian.

110 N. ROYAL ST.

**SUITE 307** 

Further compounding this problem, many helicopters in densely populated areas are used for multiple roles. Even if a person were to correctly identify a helicopter as law enforcement-operated, they would not be able to determine whether the aircraft was performing a law enforcement function or simply transporting an elected official.

ALEXANDRIA, VA

22314-3234

The FAA also seeks comments on the impact restrictive air traffic control procedures could have on helicopter operations. AAMS urges the FAA to consider the vital role of air medical services. While many helicopter operations are important, none compare with the importance of getting quickly to a critically ill or injured patient and then transporting that patient to a higher level of medical care. Air ambulance flights are currently provided priority status in the ATC system which helps ensure the rapid and safe transport of patients.

(703) 836-8732

FAX (703) 836-8920

www.aams.org

Federal Aviation Administration Office of Chief Counsel July 24, 2000 Page two

In addition, it is important to recognize that while many hospitals are in densely populated areas, the majority of air medical operations occur in part in rural areas. This means that only a small portion of some air medical flights occur in densely populated areas and therefor the majority of medevac flights probably fall outside the scope of this FAA study.

Finally, the FAA seeks "solutions" for the reduction of the effects of nonmilitary helicopter noise. AAMS believes that sound reduction technologies have matured greatly over the last several decades. It is an evolutionary process that takes decades or more to yield results. We suggest you consult with the helicopter manufacturers to compare noise levels of similar-sized aircraft of the 1960s to those produced today. Undoubtedly, a review will show a marked reduction in aircraft noise. The continued development of noise reduction technologies is the most promising avenue to achieve long-term results.

In closing, AAMS urges the FAA to strongly promote the Fly Neighborly Program in its report to Congress. This valuable program offers important information to helicopter operators enabling them to both use current equipment as quietly as practical as well as to be sensitive to community concerns.

Once again, thank you for providing AAMS with the opportunity to submit these comments. If you have any questions please do not hesitate to contact me at (703) 836-8732.

Sincerely,

Dawn Mancuso, CAE Executive Director

CAROLYN B. MALONEY 14TH DISTRICT, NEW YORK

2430 RAYBURN BUILDING WASHINGTON, DC 20515-3214 (202) 225-7944

COMMITTEES:
BANKING AND FINANCIAL
SERVICES

**GOVERNMENT REFORM** 

JOINT ECONOMIC COMMITTEE



## Congress of the United States

## House of Representatives

Welashington, DC 20515-3214

July 24, 2000

Federal Aviation Administration Office of Chief Counsel Rules Docket 800 Independence Ave., S.W. Room 915H Washington, D.C. 20591



NEW YORK, NY 10128 (212) 860-0606

DISTRICT OFFICES:

1651 THIRD AVENUE

SUITE 311

28-11 ASTORIA BOULEVARD ASTORIA, NY 11102 (718) 932-1804



RE: Helicopter Noise Study -- Docket No. 30086

As the representative of New York's fourteenth district in Congress, I am the author of helicopter noise reduction legislation and have worked to provide my constituents with relief from disruptive helicopter noise for several years. The FAA request for comment complies with a Congressional mandate to study helicopter noise that I and other Members of Congress included in last year's FAA reauthorization<sup>1</sup>. I believe the study as outlined the Federal Register comment request<sup>2</sup> is flawed and does not fulfill the mandate in the law. Specifically, the outline published by the FAA focuses on studying the types of helicopters that elicit complaints from individuals. The focus, as required by law, should be the effects of helicopter noise on individuals.

This comment letter addresses: (1) weakness in the design of the study, (2) answers specific questions in the June 23, 2000, request for information, and (3) recommends additional information requests that the agency should conduct as part of the helicopter noise study.

## I. Design of the Study

## 1. The Current comment deadline should be extended by 60 days.

Helicopter noise is a near constant life disruption for many of my constituents in Manhattan and Queens. My office receives a sizable number of letters complaining about helicopters from a diverse group of individuals and organizations. The one-month deadline for comment published by the FAA in June has simply not been enough time for this community to be

<sup>&</sup>lt;sup>1</sup> P.L. 106-181

<sup>&</sup>lt;sup>2</sup> 39220 FR 6/23/00

informed of the FAA's request and for them to respond to the request. The FAA did no outreach to my office or to the community to make us aware that the study had been published in the Federal Register. This is a serious failing on the part of the FAA that requires an extension of the request for comment.

While I understand that a public call for information will be conducted as part of the study, I believe it is critical that the public also have a reasonable amount of time to comment on the design of the study.

2. The FAA's proposed study fails to follow the Congressionally mandated requirement that the study focus on the impact on individuals of helicopter noise.

Section 747 of the Federal Aviation Administration Authorization Act of 2000 (the Act) requires the FAA to conduct a study "on the effects of nonmilitary helicopter noise on individuals." At no point in the FAA request for comment does the Administration state how the negative impact of helicopter noise on individuals will be quantitatively measured. To adequately measure this impact the FAA should apply the language in Section 745 of the Act which mandates a General Accounting Office (GAO) study of airport noise. The FAA should apply the entirety of the language in the mandate to the GAO in Section 745 to its own helicopter noise study, including the threshold at which noise effects health and the affect on noise on communities and schools.

## II. Response to the FAA Request for Information

1. The FAA's request for information fails to fulfill the Congressionally mandated requirement that the study focus on the impact on individuals of helicopter-noise.

As noted above, Section 747 of the Federal Aviation Administration Authorization Act of 2000 requires the FAA to conduct a study "on the effects of nonmilitary helicopter noise on individuals." The FAA information request fails to focus on this requirement. Instead, the FAA comment request asks for information on the types of helicopters that elicit negative responses from individuals, how air traffic patterns can be altered, what the impact of air restrictions, and for solutions for reducing the effects on individuals.

These requests patently fail to fulfill the Congressional mandate. The impact of helicopter noise on individuals includes the impact of the noise on the environment, health and safety. The FAA information request fails to address these areas and will not produce an adequate study.

2. Helicopters serving a wide range of uses have a negative impact on community residents.

The FAA request for comment asks what type of helicopters elicit negative comments

from individuals. It is my experience that a diversity of types of helicopters generate complaints to my office. Certainly, noise associated with helicopters operating to provide emergency medical service or responding to a law enforcement *emergency* is an understandable byproduct of protecting the health and welfare of our citizens. However, residents cannot differentiate by hearing between these flights and superfluous flights carrying tourists, businesspeople, or news crews. The negative impact on the quality of life results from all helicopter flights. While there is an indisputable need for helicopters the provide emergency services, the FAA should be clear that all helicopters affect community residents.

Furthermore, while I represent a densely-populated Congressional district, my office has also received helicopter noise complaints from around the country, suggesting that this is not simply an urban problem.

## III. Additional Information that the FAA should request

## 1. The FAA should conduct a survey of helicopter noise information.

The FAA should conduct a comprehensive review of helicopter noise literature and consult experts in the field in order to provide the Administration with adequate background on the subject. Specifically, the FAA should build on the work of the Natural Resources Defense Council (NRDC) study "Needless Noise: the Negative Impacts of Helicopter Traffic in the New York City and Tristate Region (1999)." The NRDC study includes important recommendations for reducing helicopter noise that the FAA should consider. These include curfews, minimum altitudes, helicopter identification markings, and noise abatement procedures.

# 2. The planned operations assessment should quantify the number of helicopter flights.

It is generally agreed that any statistics regarding the number of helicopter flights over city areas such New York are woefully incomplete. As part of the FAA's operations assessment the number of helicopter flights over cities monitored in the study should be quantified. Such assessments should take into account all flights that go over areas in the study and not simply those that take off and land in individual areas under the study.

## 3. The planned operations assessment should include community input.

As part of the FAA's operations assessment, the Administration should conduct interviews with affected residents. The effort to combat disruptive helicopter noise is truly a community-led effort. In conducting its study of helicopter noise, the FAA must solicit the maximum input from the affected community. Only with significant community input will an adequate outside perspective be represented in the FAA study. My office will be pleased to assist FAA staff in reaching out to the community and would also assist the Administration in assembling a formal

group of outside representatives that the FAA could repeatedly consult for expert input. This effort will improve the end product of the study and greatly increase its credibility with those of us concerned with helicopter noise.

I look forward to reviewing the completed work of the Administration which I hope will more correctly reflect it Congressional mandate.

CAROLYN B. MALONEY

Member of Congress



Board Chairman Roger A. Krone

President John Murphey

Secretary-Treasurer Gilles P. Ouimet

Executive Director M. E. Rhett Flater

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n Leverton

HAI Liaison Gene P. Munson

General Counsel M. E. Rhett Flater July 24, 2000

Office of Chief Counsel Federal Aviation Administration Attention: Rules Docket Docket No. 30086 800 Independence Avenue, SW Washington, D.C. 20591



Tim UL 21 P # 21

Docket No. 30086: Comments of AHS International In Response to Notice and Request for Comments Concerning "Report to Congress on Effects of Nonmilitary Helicopter Noise on Individuals In Densely Populated Areas in the Continental United States," 65 Fed. Reg. 39220 (June 23, 2000)

Dear Sirs:

The Wendell H. Ford Aviation Investment and Reform Act for the 21<sup>st</sup> Century (the Act), Section 747, directs the Secretary of Transportation to "conduct a study (1) on the effects of nonmilitary helicopter noise on individuals in densely populated areas in the continental United States; and (2) to develop recommendations for the reduction of the effects of nonmilitary helicopter noise." The Secretary has delegated performance of this study to the Federal Aviation Administration.

In conducting this study, the United States Congress has directed the Secretary to "focus on air traffic control procedures to address helicopter noise problems and shall take into account the needs of law enforcement." Congress also directed the Secretary to "consider the views of representatives of the helicopter industry and organizations with an interest in reducing nonmilitary helicopter noise." The Secretary is directed to transmit a report on the results of the study to Congress "not later than one year after the date of the enactment of this Act" (April 5, 2000).

AHS is a technical professional society for the advancement of vertical flight technology and its applications. Founded in 1943 by aviation pioneers such as Igor I. Sikorsky, Frank Piasecki, Stanley Hiller, Arthur Young and Charles H. Kaman, the Society today has more than 6,000 individual members. Its corporate members include Bell Helicopter, the Boeing Company, Sikorsky Aircraft, Eurocopter, GKN Westland, Agusta, Robinson, Enstrom and Schweizer Aircraft.

In preparing the study, the FAA has requested interested parties to respond to a request for information relating to four specific questions. In response, the Society offers several general comments on the scope of the study followed by specific comments regarding the four questions:

#### **AHS General Comments**

- The study by Congress relates to "non-military helicopter operations" in "densely populated areas." In some geographic areas, however, the military conducts significant helicopter flight operations that often elicit public response. The public, moreover, often does not (or cannot) distinguish between non-military (civil) and military helicopters
- The character of the sound generated by helicopters, as well as the absolute level, contributes to the public perception of helicopter noise. In addition, studies of public reaction to helicopters indicate that the public concerns relating to helicopter operations are interrelated with safety, noise and other issues.

These aspects, as well as those specifically listed in the Federal Register Notice, need to be taken into account by the FAA when assessing the impact of non-military helicopter noise.

The Congress directed that the "study shall focus on air traffic control procedures to address helicopter noise problems . . . ." Operational techniques and flyover altitudes obviously fall into this category. It is further stated that "The major goal of the study is to identify the type of helicopter operations (either law enforcement, electronic news gathering (ENG), sightseeing tour, emergency medical service (EMS), or corporate executive commuter) that elicit negative response by individuals for typically densely populated areas and understand whether air traffic control procedures are applicable to addressing helicopter noise reduction in ways which are not unduly restrictive on operations."

During each of the past two years, AHS has conducted at its annual meeting special sessions related to public acceptance of rotorcraft. The first, in May 1999, was held in Montreal, Canada; the second was held in May 2000 in Virginia Beach, Virginia. These events highlighted the finding that public acceptance of helicopters is dependent on numerous aspects and not just the noise created. Participants clearly agreed that, in addition to the absolute level of the noise generated by a helicopter, the character or subjective impression of sound is equally or more important. This can be appreciated by the fact that in some locations certain smaller helicopters with unique acoustics characteristics generate relatively low absolute noise levels but cause more adverse public reaction than larger helicopters which do not have any of these pronounced noise sources. At present, there are no known methods for rating or assessing public responses which take into account the character of the sounds. Rating methods are based on the absolute levels (dBA) or levels within the 10 dB down-period (SEL, EPNdB). There has been no work conducted on the subjective impact of such sounds since the 1970s and early 1980s.

AHS regards these issues as important factors that will need to be considered by the FAA if the public response to helicopter noise is to be adequately addressed.

Both NASA and the manufacturers have focused considerable effort on the reduction of helicopter noise sources over the last decade and this is reflected in a number of the quieter

Federal Aviation Administration July 24, 2000 Page 3

helicopter models that are now available. Absolute noise levels have been reduced, and some of the sources which are known to draw attention to the helicopter, such as pronounced BVI (Blade Vortex Interaction) and high levels of tail rotor noise, have in certain cases been eliminated. In general, however, helicopters cannot be retrofitted to be quieter, as can often be done in the case of fixed-wing aircraft.

The economic viability of the helicopter industry is heavily dependent on development of new helicopter models based on existing or previous models. As a result, the level of noise control technology which can be incorporated in a new model is often limited by economic considerations. Even so, quieter models are continuously being developed and introduced to the market.

In the case of BVI noise generated during descent or approach, although significant improvements in understanding the source of such noise have been made, the gains from new technologies have been relatively small. On the other hand, BVI noise can be addressed by use of noise abatement operational procedures. New techniques are becoming available as a result of work by NASA, the Rotorcraft Industry Technology Association, and academic institutions that enable the noise during such operations to be significantly lowered. In some cases, impulsive BVI noise characteristics can be effectively eliminated.

The available models for rating helicopter noise, e.g., the FAA's HNM and INM and NASA's RNM, are not adequate for evaluating noise impacts of air traffic control or operational procedures for noise control. The use of these tools may lead to inaccurate and counterproductive results. Industry research, conducted in concert with NASA, has shown that "one size fits all" noise abatement is not effective and can lead to increased noise for some flight regimes typical of normal helicopter operations. The government and industry databases available for any study are presently inadequate since they relate either solely to noise certification flight procedures or they are based on flight tests conducted with helicopters available in the early 1980s. Accordingly, there is little or no data available applicable to normal operations of the majority of today's fleet of helicopters. AHS recommends that, to address the issues raised by Congress properly, a realistic database needs to be established.

Finally, some claims have been made that "the Europeans have made and implemented major strides in noise reduction" and that, by comparison, the U.S. manufacturers have not similarly incorporated available noise control technology in their designs. This is not true and ignores the economic issues associated with the design and manufacture of helicopters. AHS recommends that a realistic assessment of the acoustic effectiveness and economical feasibility of the design and technology options available to U.S. manufacturers be conducted and such an assessment be included in the FAA report to Congress.

# Question 1. What are the types of helicopter operations (law enforcement, electronic news gathering, sightseeing tours, etc.) that elicit the negative response by individuals in densely populated areas?

Emergency medical service (EMS) helicopters are not clearly identifiable, and it is not easy for individuals to see actual helicopter markings. Flight operations near a hospital will normally indicate that it is an EMS helicopter. Also VFR helicopter routes, which are followed by most operators, are typically located above highways. The public often incorrectly identifies helicopters. For example, low flying police flights are often attributed to civil helicopter operations. Many urban areas have well defined VFR (visual flight rule) routes defined on FAA charts. Helicopters transiting these areas are normally required to follow these routes. Helicopters not flying these routes are often required to do so to meet specific mission requirements. In some urban areas, helicopters are under positive air traffic direction because they are operating in controlled airspace.

Electronic news gathering (ENG) and traffic surveillance aircraft have somewhat different requirements which force them to fly at slower speeds and hover in one place. Some evidence suggests that the altitudes used in conducting these missions often provoke adverse public response. But the public often confuses these with other helicopter operations.

Even if the public knows the type of operation, there is little or no social survey data that would enable the question raised by FAA to be answered with any confidence. It is generally believed that the public is more tolerant to EMS and police operations but this has not been documented. Thus this question can only be answered if appropriate social surveys are conducted. AHS would strongly recommend that the FAA initiate such a program.

# Question 2. What air traffic control procedures are applicable in addressing helicopter noise reduction?

First, the FAA should consider the case of flyover noise impact, which except near heliports appears to be a main concern. Helicopter noise, as heard on the ground, decreases significantly as the flyover height is increased. Also the spread, i.e., the width of sound impact, is decreased as the flyover height is increased. Air traffic control authorities often require or encourage flying at low altitudes. In the vicinity of airports, ATC often finds that it must direct helicopters over populated areas. These actions are incompatible with the desire to fly at heights where the noise impact would be minimal. The manufacturers of most helicopters publish recommended flyover heights. These range from typically 1,000 feet (500 feet for small helicopters) to 2000 feet or even higher for medium and large helicopters. For air traffic control reasons, however, use of these heights is often not possible. Similarly VFR (visual flight rule) routes have not always been chosen with environmental considerations in mind. Significant improvements could be made by a re-examination of all VFR charts. Attention should also be given to requirements for high angle-of-bank turns. Sharp turns typically cause a rise not only in the noise level but also the BVI content.

Federal Aviation Administration July 24, 2000 Page 5

Helicopter Association International has developed a "Fly Neighborly" program, which details minimum noise operational procedures. This program is based on data supplied by the U.S. manufacturers and is fully backed by all manufacturers.

Similarly flights in the IFR (instrument flight rule) system automatically reduce the impact of flyover noise since the higher altitudes are used in the IFR regime. Air traffic control procedures, however, are often not compatible with the needs of the helicopter community. Even if access to higher airspace can be obtained, acceptable routing is often not available. These factors encourage the use of VFR procedures and corresponding low altitudes.

Action by the FAA to encourage use of the IFR system including use of GPS point-in-space approaches and GPS IFR departure procedures that take into account the helicopter capabilities would help overcome some of these problems. These procedures would assist in reducing flyover noise and would also assist in minimizing noise levels at or near heliports. Since the BVI noise levels generated by a helicopter is at or near its maximum at a 6 degree descent angle, it is essential that approach procedures should be flexible in nature so noise abatement techniques can be employed under IFR conditions.

Question 3. What impacts could restrictive air traffic control procedures have on operations of: Law Enforcement helicopters, electronic news gathering (ENG) helicopters, sightseeing tour helicopters, emergency medical services (EMS) helicopters, and corporate executive helicopters?

This is essentially an operational issue and thus AHS cannot comment on specific implications. The question, however, assumes that any ATC procedures will be restrictive when in practice they do not need to be. As mentioned in connection with question 2, flyover heights of 1000 feet or 2000 feet or more are typically recommended by the manufacturers, but operations are conducted at lower heights for ATC reasons. AHS understands that operators would in general support ATC policies that encourage the use of such heights under VFR conditions. In addition many operators look forward to the time when IFR operations, conducted at heights to avoid creating a nuisance, are possible on a regular daily basis. In fact the corporate executive operations would, in general, benefit if operations under an IFR framework were possible. Even so there are, and always will be cases, where some types of operations such as EMS, law enforcement and others need to be conducted at lower heights to satisfy mission effectiveness.

In addition, it is clear from available evidence that the general public does not understand the mission needs for the use of lower flyover heights at given times. This needs to be explained to the general public, particularly when low flights are the result of local air traffic control actions necessary for safety, flight separation and other reasons.

Question 4. What are the recommended solutions for reduction of the effects of non-military helicopter noise?

AHS recommends the following:

- Surveys should be conducted to establish both the types of operations and the noise charactistics of helicopters which the public finds most annoying.
- Subjective studies should be conducted by the FAA, in concert with NASA, to establish
  methods for rating the quality, as well as, the level of sound generated by a helicopter during
  flyover and descent. [Such information would also be useful to manufacturers in selecting
  the appropriate design features for minimum annoyance.]
- The FAA should support development of a user-friendly, reliable modeling tool(s) for comprehensive predictions of both subjective responses to helicopter noise, i.e., sound quality metrics, and "objective" noise level metrics, e.g., SEL, EPNdB and Ldn contours. The model(s) should be usable for evaluation both the community noise impacts of helicopter operations and the noise benefits of air traffic control or operational procedure changes for noise control.
- Non-precision and precision IFR procedures should be developed and implemented so that a such operations can be conducted on a regular basis. GPS point-in-space approach procedures should be established for general use (rather than on special use basis as it is at present) at heliports which do not have any approach aides. This activity should include the establishment of Simultaneous Non-Interfering (SNI) procedures for use by rotorcraft at all major airports. In developing such procedures, due weight should be given to the environmental implications of routes and procedures selected.
- A public-private partnership should be established to explain the need for rotorcraft operations and reasons for the use of low altitudes and routes near community areas etc. when dictated by ATC, mission requirements, and other considerations.
- Flexible ATC procedures should be established wherever possible to encourage and enable flyover heights of 1000 feet to 2000 feet and higher in the case of large helicopters. Near airports this should include a re-examination of airspace (height) limitations.

AHS appreciates this opportunity to respond to the Agency's request for information. We look forward to supporting the study and would be pleased to provide further information as needed.

Very truly yours,

M.E. Rhett Flater
Executive Director
And General Counsel



#### CITY OF

# PORTLAND, OREGON

Dan Saltzman, Commissioner

1221 S.W. 4th Avenue, Room 230 Portland, Oregon 97204 Telephone: (503) 823-4151

Fax: (503) 823-3036

Internet: dsaltzman@ci.portland.or.us

July 20, 2000

Federal Aviation Administration Office of Chief Counsel Attn: Rules Docket, Docket No.30086 800 Independence Avenue SW, Room 915H Washington, DC 20591

Dear Mr. Erickson:

I have enclosed in triplicate a Resolution I introduced that was adopted unanimously by the City Council of Portland, Oregon on July 19, 2000. The Resolution should be considered as public comment relating to the Federal Aviation Administration Report to Congress on Effects of Nonmilitary Helicopter Noise on Individuals in Densely Populated Areas in the Continental United States (Docket No. 30086). Please consider this Resolution in preparing your Report to Congress. If you have any questions, please feel free to contact me.

FJD

Bincerely

# OFFICE OF AUDITOR OF THE CITY OF PORTLAND

City Hall Room 140 1221 SW 4<sup>th</sup> Avenue Portland, Oregon 97204

## **COPY CERTIFICATE**

STATE OF OREGON	}	
COUNTY OF MULTNOMAH	}	SS
CITY OF PORTLAND	}	

I, GARY BLACKMER, Auditor of the City of Portland, do hereby certify that I have compared the following copy of Resolution No. 35906, passed by the Portland City Council on July 19, 2000, a Resolution regarding FAA report to Congress on effects on nonmilitary helicopters on individuals in densely populated areas in the continental United States, with the original thereof and that the same is a full, true and correct copy of such original Resolution No. 35906 and of the whole thereof as the same appears on file and of record in my office and in my care and custody.

IN WITNESS WHEREOF, I have hereunto set my hand and seal of the City of Portland affixed this July 20, 2000.

GARY BLACKMER
Auditor of the City of Portland

Deputy

## RESOLUTION NO. 35906

Resolution regarding FAA Report to Congress on Effects of Nonmilitary
Helicopters on Individuals in Densely Populated Areas in the Continental United
States (Resolution)

Comments for FAA Report to Congress on Effects of Nonmilitary Helicopters on Individuals in Densely Populated Areas in the Continental United States (Resolution).

WHEREAS, neighborhood noise pollution issues are a growing concern for many Portland citizens;

WHEREAS, the Federal Aviation Administration has solicited information and comments for its report to Congress required by the FAA Authorization Act of 2000 on the effects of nonmilitary helicopter noise on individuals of densely populated areas (Docket Number 30086);

WHEREAS, the negative effects of nonmilitary helicopter noise on the most densely populated areas of the City continue to be a part of Portland's noise pollution problem;

WHEREAS, current Federal Aviation Administration air traffic control procedures are inadequate to prevent low flying nonmilitary helicopters from exceeding City noise level standards while conducting electronic news gathering, sightseeing and commuter air taxi services;

WHEREAS, the City Council believes that neighborhood noise impacts are a priority as such impacts impair the ability of the City to promote urban density while maintaining livable inner city neighborhoods;

NOW, THEREFORE, BE IT RESOLVED, that the City Council of the City of Portland urges the Federal Aviation Administration to include in its report to Congress recommendations to reduce nonmilitary helicopter noise on individuals in densely populated areas such as the City of Portland.

BE IT FURTHER RESOLVED, that a recommended solution for the reduction of nonmilitary helicopter noise should include air traffic control procedures sufficient to generally prohibit low level flights below 2000 feet above the surface of densely populated areas without the consent of the appropriate local government.

ADOPTED by Council:
JUL 1 9 2000

GARY BLACKMER
Auditor of the City of Portland

By:

Deputy

## Bell Helicopter TEXTRON

**Bell Helicopter Textron Inc.** A Subsidiary of Textron Inc.

21 July 2000

Federal Aviation Administration Office of Chief Counsel Attn: Rules Docket, Docket No. 30086 800 Independence Avenue, SW., Room 915H Washington, DC 20591 Post Office Box 482 Fort Worth, Texas (817) 280-2011



RE: Comments to Report to Congress on Effects of Nonmilitary Helicopter Noise on Individuals in Densely Populated Areas in the Continental United States.

Bell Helicopter Textron, Inc. provides the following information in response to FAA's request for comments to support a study in identifying recommendations for reduction of the effects of nonmilitary helicopter noise that otherwise impacts individuals of densely populated areas in the continental United States. The FAA has specifically requested information regarding the following four questions:

Question 1: What are the types of helicopter operations (law enforcement, electronic news gathering, sightseeing tours, etc.) that elicit the negative response by individuals in densely populated areas?

Comment: It is Bell's experience that helicopter operations elicit negative responses if helicopter operations occur frequently over a given area (e.g., a high rate of repetitive flyovers) and/or the operations are at an altitude too low for a given noise-sensitive area. Densely populated areas have a number of noise sources that are as loud or louder than most helicopter noise, such as trucks, buses, dense city traffic, air conditioning systems, and industrial processes. Helicopter noise is noticed more due to its unique character, which makes it stand out, than to its absolute noise level.

The public may not correlate the noise generated by police and EMS helicopters operations with their public benefit, including lifesaving, and believe the noise is generated by unnecessary operations that are not of benefit to them. A public education program is called for to correct this perception.

Sightseeing tours elicit negative responses frequently because of the repetitive nature of the operation and because the flights may be conducted at low altitudes. Law enforcement, electronic news gathering, and emergency medical services can also generate negative responses if operations are frequent and at low level. (Again, the public may not recognize the importance of the law enforcement and emergency medical service helicopter missions.)

Heliport operations, where the usage is high, also elicit negative responses. Frequency of noise exposure and proximity are, again, the causative factors.

#### Bell Helicopter TEXTRON

Question 2: What air traffic control procedures are applicable in addressing helicopter noise reduction? Why?

<u>Comment</u>: Bell defers to the experience of the helicopter operator members of the Helicopter Association International (HAI) to provide information concerning this issue.

Question 3: What impacts could restrictive air traffic control procedures have on operations of:

Law enforcement helicopters?

Electronic news gathering (ENG) helicopters?

Sightseeing tour helicopters?

Emergency medical services (EMS) helicopters?

Corporate executive helicopters?

<u>Comment</u>: Bell defers to the experience of the helicopter operator members of HAI to provide information concerning this issue.

Question 4: What are the recommended solutions for reduction of the effects of nonmilitary helicopter noise?

<u>Comment</u>: Helicopter noise can be reduced by changes in design or operational procedures. Bell helicopters incorporate noise reduction technology that is economically reasonable and competitive in the cost-sensitive transportation marketplace. Bell products meet all current and proposed noise certification requirements. An order of magnitude reduction in noise level by design changes will result in a significant increase in acquisition cost and increased direct operating cost.

Bell has been actively working with the Helicopter Association International (HAI) to promote quieter helicopter operations under the "Fly Neighborly" program. This program uses annual workshops and publications to educate helicopter operators and pilots to recognize noise sensitive areas and implement quiet operating procedures. This program was initiated by Bell in the 1970's and adopted by HAI in the 1980's.

Bell works directly with individual operators to solve local noise problems by combining reduced noise technology and noise abatement operations. For example, the community surrounding the operator's heliport is evaluated and alternate routes and approach procedures are recommended that avoid noise-sensitive areas. For one of our popular sightseeing tour helicopters, Bell developed a "quiet cruise" kit that reduces the helicopter noise level by 4-5 decibels during the portions of the flight where the helicopter is flying near noise-sensitive neighborhoods. A Niagara Falls, Canada, operator has implemented this kit on their helicopters, with a resulting elimination of noise complaints and improved community relations.

Troy Gaffey

Senior Vice-President, Pechnology



Telephone: (703) 683-4646 Fax: (703) 683-474

July 24, 2000

Federal Aviation Administration
Office of Chief Counsel
Attn: Rules Docket
Docket No. 30086
800 Independence Avenue SW
Room 915H
Washington DC 20591

1635 Prince Street, Alexandria, Virginia 22314-2898



Re:

Docket No. 30086: Comments of Helicopter Association International in Response to Notice and Request for Comments Concerning "Report to Congress on Effects of Nonmilitary Helicopter Noise on Individuals in Densely Populated Areas in the Continental United States," 65 Fed. Reg. 39220 (June 23, 2000)

#### Dear Madam Administrator:

On April 5, 2000, President Clinton signed into law the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (the Act). Section 747 of the Act directs the Secretary of Transportation to "conduct a study (1) on the effects of nonmilitary helicopter noise on individuals in densely populated areas in the continental United States; and (2) to develop recommendations for the reduction of the effects of nonmilitary helicopter noise." The Secretary has delegated performance of this study to the Federal Aviation Administration (FAA).

In conducting this study, Congress directed the Secretary to "focus on air traffic control procedures to address helicopter noise problems and shall take into account the needs of law enforcement." Congress also directed the Secretary to "consider the views of representatives of the helicopter industry and organizations with an interest in reducing nonmilitary helicopter noise." The Secretary has been directed to transmit to Congress a report on the results of the study "[n]ot later than 1 year after the date of the enactment of this Act."

Helicopter Association International (HAI) welcomes this opportunity to comment on this vital activity. HAI is the professional trade association for the civil helicopter industry. Its 1,500-plus member organizations and 1,400-plus individual members safely operate more than 5,000 helicopters approximately 2 million hours each year. HAI is dedicated to the promotion of the helicopter as a safe, effective method of commerce and to the advancement of the civil helicopter industry.

Docket No. 30086: HAI Comments Concerning Report to Congress on Effects of Nonmilitary Helicopter Noise, 65 Fed. Reg. 39220 (June 23, 2000)

In preparing to meet its obligations under the section 747 of the Act, FAA has asked for comment concerning four questions. See Notice and request for comments concerning "Report to Congress on Effects of Nonmilitary Helicopter Noise on Individuals in Densely Populated Areas in the Continental United States," 65 Fed. Reg. 39220 (June 23, 2000). HAI's responses to FAA's questions follow.

# "1. What are the types of helicopter operations (law enforcement, electronic news gathering, sightseeing tours, etc.) that elicit the negative response by individuals in densely populated areas?"

Data is lacking on noise complaints attributable to helicopter overflight categorized by type of mission. In many instances, citizens on the ground are unable to determine the mission a particular helicopter is performing when it is perceived or observed; in fact, ground observers may mistake other things, such as airplanes or even construction cranes, for helicopters, inaccurately attributing to helicopters sounds that come from other sources. This source of error is compounded by the fact that many helicopters perform a variety of missions. For example, news gathering or sightseeing helicopters may assist in search and rescue missions, lawenforcement helicopters engage in pilot training, and so on. Finally, the same helicopter operation that elicits a negative response from one person may elicit a positive response from another. For example, when a law enforcement helicopter is flying low to assist in an arrest or to provide airborne surveillance, some people may respond negatively while others respond very favorably, assured that the local law enforcement agency is providing a safer neighborhood in which to live. Similarly, EMS operators, searching for an adequate place to land to effect a lifesaving rescue, may perform a low pass to safely evaluate power-lines and other hazards. While this low flight may elicit a negative response from some people, it may elicit a positive response from others who are happy to know that a "life flight" helicopter can move an injured or sick person to a hospital in rapid fashion.

Although certain agencies may retain records of citizen complaints about aircraft overflights, complaint rates do not provide a valid or reliable measure of community attitudes toward helicopter operations. As one New York City aviation leader familiar with community responses to aircraft overflight has commented, "We must not lose sight of the fact that the majority of the people in the community do not believe there is a problem in general, and those that do have legitimate complaints acknowledge our response and appreciate our efforts to mitigate the impact we have on them. Those in the radical minority of opposition unfortunately generate the most attention and misrepresent the issues."

<sup>&</sup>lt;sup>1</sup> For example, the Eastern Region Helicopter Council (ERHC), an HAI affiliated organization, as part of a comprehensive effort to respond to helicopter overflight concerns among some New York City residents, has established a toll-free hotline for complaints related to helicopter operations.

<sup>&</sup>lt;sup>2</sup> In social science research, a "valid" measure is one that actually measures what it purports to measure, rather than inadvertently tapping some intervening or unrelated variable. A "reliable" measure is one that gauges its target variable consistently to a determinable degree of accuracy. See. e.g., Anne Anastasi, Psychological Testing at pp. 27-29 (4th Ed., Macmillan, 1976).

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As a measure of community attitudes toward helicopter overflight, complaint data suffer from the inadequacies of biased sampling (since all data are collected from self-selecting respondents who presumably differ significantly from members of the public who observe the same helicopter operations but do not respond by complaining), lack of indicators of validity or reliability (which frustrates efforts to estimate the amount of error introduced by biased sampling and other sources of error, such as inaccurate perception – the purported "helicopter" was really an airplane or a crane – and inaccurate reporting), and lack of empirical or statistical controls (which means that there is no way to relate data from ERHC's hotline calls to the population of New York City residents and visitors in a manner that permits meaningful understanding of community attitudes).

The question posed by the FAA is fundamentally one of social science: an assessment of community attitudes toward certain stimuli or events. Historically, social science data has not figured to a great degree in FAA's activities regarding aircraft overflight sound. Recent reviews of FAA noise regulations and procedures,<sup>3</sup> and even recent critical commentary concerning helicopter overflight of metropolitan areas,<sup>4</sup> cite almost no social science data.<sup>5</sup> As a result, FAA appears to have very limited experience in commissioning, collecting, analyzing, evaluating, or using social science data in its noise mitigation planning or implementation processes.<sup>6</sup> For example, the nature of any social science research supporting FAA's "Compatible Land Use Guidance" is unclear.<sup>7</sup>

HAI urges FAA to commission a university-based social science research study of community attitudes toward helicopter overflight in a major metropolitan area such as New York City. The study methodology should be subjected to peer review within the social science research profession to assure that it is unbiased, thorough and properly executed. HAI would welcome opportunities to cooperate with FAA in developing a work plan for such a study.

<sup>&</sup>lt;sup>3</sup> See U.S. General Accounting Office report "Aviation and the Environment: FAA's Role in Major Airport Noise Programs," GAO/RCED-00-98, pp. 31-33, 41-53 (April 2000) (hereinafter the "GAO Report"); see also FAA Order 5100.38A, section 710.

<sup>&</sup>lt;sup>4</sup> See National Resources Defense Council, Needless Noise: The negative impacts of helicopter traffic in New York City and the Tri-State Region (Dec. 1999)(hereinafter NRDC Brochure).

<sup>&</sup>lt;sup>5</sup> The NRDC Brochure suffers from a number of other weaknesses of data, assumption and reasoning not immediately germane to this discussion.

<sup>&</sup>lt;sup>6</sup> See, e.g., GAO Report at p. 41, citing T.J. Schultz, "Synthesis of Social Surveys on Noise Annoyance," 64(2) Journal of the Acoustical Society of America (1978), pp. 377-405 ("The findings of a 1978 study that related transportation noise exposure to annoyance in communities has become the generally accepted model for assessing the effects of long-term noise exposure on communities. According to this study, when sound exposure levels are measured by a method that assigns additional weight to sounds occurring between 10 p.m. and 7 a.m., and those sound levels exceed 65 decibels, individuals report a noticeable increase in annoyance.")

<sup>&</sup>lt;sup>7</sup> See GAO Report at Appendix VIII, Table 14, p. 99.

# "2. What air traffic control procedures are applicable in addressing helicopter noise reduction? Why?"

Helicopter noise is more pronounced at lower altitudes, and many operational missions or air traffic control requirements mandate flying at low altitudes. Through newer technologies, some missions are able to operate at higher altitudes than in former times. For example, electronic news gathering (ENG) is adopting sophisticated and powerful stabilized cameras that permit useful views of newsworthy scenes from 1000 to 2000 feet AGL.

Unfortunately, in the densely populated areas being addressed by this study, air traffic control (ATC) operates under many constraints that shape the configuration of controlled airspace. ATC often finds it necessary or convenient to direct helicopters operating over populated areas in the vicinity of major airports to remain at lower altitudes than are necessary for efficient completion of the helicopter's mission.

HAI has a very active educational campaign in place to encourage operators to fly as high as possible consistent with safety and in light of mission requirements. However, ATC often cannot or will not permit helicopters to climb to optimum Fly Neighborly altitudes, generally at least 1000 to 2000 feet AGL for contemporary aircraft. Even in VFR conditions, ATC often keeps helicopters at lower altitudes than reasonably necessary to avoid departing or arriving fixed wing traffic.

Despite the fact that helicopters are increasingly capable of entering the IFR system (which, by virtue of higher altitudes, greatly reduces noise impact on the ground), ATC procedures often fail to permit helicopters entrance into the IFR structure in a timely manner, or at all. When helicopters are permitted to enter the IFR system, circuitous IFR routing may place mission completion in jeopardy because helicopters generally carry less fuel and have a shorter range than IFR airplanes of equivalent passenger carrying capacity. Consequently IFR capable helicopters often fly VFR over metropolitan areas. Because VFR operations are often directed by ATC to lower altitudes, the result is more sound on the ground than would be the case if ATC procedures encouraged, rather than discouraged, helicopter IFR flight.

To address this problem, HAI urges FAA to:

 Develop policies and procedures that encourage helicopters to operate at altitudes of at least 1000 to 2000 feet AGL over densely populated areas such as New York City, whenever operation at these altitudes is consistent with safety and mission requirements; and

<sup>&</sup>lt;sup>8</sup> See HAI's Fly Neighborly Program, a description of which may be reviewed via the Internet at <a href="http://www.rotor.com/helihound/Flyneighborly.html">http://www.rotor.com/helihound/Flyneighborly.html</a>

<sup>&</sup>lt;sup>9</sup> New technologies are permitting manufacturers to develop a new generation of ultra quiet helicopters. It may soon be appropriate to develop parameters of "neighborly flight" that more fully reflect the noise abatement contribution of these new "quiet technology" helicopters.

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• Develop policies and procedures to encourage helicopter operations within the IFR system whenever possible.

Among the procedures that most facilitate helicopter IFR operations are GPS Point-in-Space Approaches to heliports that do not have ground-based precision approach aids, and GPS IFR Departure Procedures that recognize the full range of helicopter operational capabilities. HAI urges FAA to make the development of GPS Point-in-Space Approaches and GPS IFR Departure Procedures that encourage helicopter IFR operations a top priority in response to the interest in these issues that Congress expressed in the Act.

HAI notes that FAA has made considerable progress since 1994 in implementing the "Ten Most Wanted IFR Enhancements" identified in the Extremely Low Visibility IFR Rotorcraft Approach (ELVIRA) Operational Concept Development Final Report. <sup>10</sup> Of the "Ten Most Wanted," at least seven would significantly facilitate noise abatement in densely populated areas by facilitating and encouraging helicopter use of the IFR system:

- Rotorcraft Standard Instrument Departures and Rotorcraft Standard Instrument Approach Procedures
- ILS Category I Approaches to a Decision Height (DH) of 100 feet with 1/4 mile visibility
- Autopilot coupled decelerating approaches to a DH of 50 feet
- Rotorcraft Specific Minima
- Use of "Area Weather" condition data to determine need for an alternate
- Rotorcraft visibility minima ½ that for Category A Airplanes
- Specific Rotorcraft IFR Route Structure

HAI urges FAA to press forward with implementation of the ELVIRA "Ten Most Wanted" in a manner that takes full advantage of the unique characteristics that distinguish rotorcraft from airplanes: fully controllable safe slow flight, nimble maneuverability throughout the flight speed range, unrivaled vertical climb and descent capability, and outstanding approach and departure flight accuracy. In particular, HAI cautions that limiting rotorcraft IFR flight by application of criteria developed for airplanes will hobble rotorcraft participation in the IFR system, discourage helicopter IFR flight and frustrate efforts to enhance noise abatement over densely populated areas.

<sup>&</sup>lt;sup>10</sup> Extremely Low Visibility IFR Rotorcraft Approach (ELVIRA) Operational Concept Development, Final Report, DOT/FAA/RD-94/1, I, Table 1.0 at p.3 (US DOT, March, 1994).

## "3. What impacts could restrictive air traffic control procedures have on operations of:

- Law enforcement helicopters?
- Electronic news gathering (ENG) helicopters?
- Sightseeing tour helicopters?
- Emergency medical services (EMS) helicopters?
- Corporate executive helicopters?"

HAI believes that the phrasing of this question, although it is consistent with the language of the Act, does not recognize the facilitating effect that appropriate ATC procedures can have for both helicopter operations and noise abatement. Most helicopters perform some missions that can be conducted safely and efficiently at altitudes of at least 1000 to 2000 feet AGL. (For most helicopter operators, most or all missions could be performed safely and efficiently at these altitudes.) Helicopter operators who operate over densely populated areas such as New York City would, for the most part, warmly welcome ATC policies and procedures that encourage them to operate at and above these altitudes.

At times, some missions require operation at lower altitudes for purposes other than taking off or landing. When operations below 1000 to 2000 feet AGL are required for safety or mission performance, HAI believes that all operators – both civil and public aircraft operators – must voluntarily take responsibility for adequately informing the affected public about the timing and reasons for the operation.

Eastern Region Helicopter Council's community outreach programs and HAI's Fly Neighborly program have demonstrated that, when the purpose and importance of low altitude helicopter operations are explained to concerned members of the public, the level of concern drops dramatically and public acceptance of low altitude helicopter operations increases dramatically. HAI urges FAA to join with industry in building voluntary, cooperative programs in major metropolitan areas to help helicopter operators inform the public about the timing, purpose and importance of low-altitude helicopter operations when these are necessary for ATC's purposes of ensuring flight safety or the public's interest in seeing that important helicopter missions are completed safely and efficiently.

# "4. What are the recommended solutions for reduction of the effects of nonmilitary helicopter noise?"

HAI's suggestions for addressing the concerns identified by Congress in the Act are stated above. To summarize:

HAI urges FAA to commission a university-based social science research study of
community attitudes toward helicopter overflight in a major metropolitan area such as
New York City. The study methodology should be subjected to peer review within the
social science research profession to assure that it is unbiased, thorough and properly
executed. HAI would welcome opportunities to cooperate with FAA in developing a
work plan for such a study.

Docket No. 30086: HAI Comments Concerning Report to Congress on Effects of Nonmilitary Helicopter Noise, 65 Fed. Reg. 39220 (June 23, 2000)

- HAI urges FAA to develop policies and procedures that encourage helicopters to operate
  at altitudes of at least 1000 to 2000 feet AGL over densely populated areas such as New
  York City, whenever operation at these altitudes is consistent with safety and mission
  requirements.
- HAI urges FAA to develop policies and procedures to encourage helicopter operations
  within the IFR system whenever possible. In particular, HAI urges FAA to encourage the
  development and implementation of GPS Point-in-Space Approaches to heliports that
  do not have ground-based precision approach aids, and GPS IFR Departure Procedures
  that recognize the full range of helicopter operational capabilities.
- HAI urges FAA to press forward with implementation of the ELVIRA "Ten Most Wanted" in a manner that takes full advantage of the unique characteristics that distinguish rotorcraft from airplanes: fully controllable safe slow flight, nimble maneuverability throughout the flight speed range, unrivaled vertical climb and descent capability, and outstanding approach and departure flight accuracy. In particular, HAI cautions that limiting rotorcraft IFR flight by application of criteria developed for airplanes will hobble rotorcraft participation in the IFR system, discourage helicopter IFR flight and frustrate efforts to enhance noise abatement over densely populated areas.
- Finally, HAI urges FAA to join with industry in building voluntary, cooperative programs in major metropolitan areas to help helicopter operators inform the public about the timing, purpose and importance of low-altitude helicopter operations when these are necessary for ATC's purposes of ensuring flight safety or the public's interest in seeing that important helicopter missions are completed safely and efficiently.

HAI looks forward to cooperating closely with FAA to achieve these goals in furtherance of the interest expressed by Congress in the Act.

Sincerely.

Roy Resavage

President

38 West 75th Street-2R New York, NY 10023 July 21, 2000

Federal Aviation Administration Office of Chief Counsel Attn: Rules Docket Docket No. 30086 800 Independence Avenue SW- Room 915H Washington, D.C. 20591



To Whom It May Concern:

Following are my comments regarding my response to a notice from your agency, in order to help bring about a severe modification of the excessive patterns of helicopter flights over densely populated areas, at dangerously close levels that have added to atmospheric pollution.

To satisfy the FAA's request for information from citizens, following are my responses to each individual question presented:

1: What are the types of helicopter operations (law enforcement, electronic new gathering, sightseeing tours, etc.) that elicit the negative response by individuals in densely populated areas?

Answer: operations need to be controlled, monitored and limited to daylight hours.

2:What air traffic control procedures are applicable in addressing helicopter noise reduction? Why?

Answer: Helicopters should fly above 1500 feet, should do no hovering, no searches for stories. I want to see the Hudson River banks free of flights, and flights should go only in the center of the River. I want the Hudson River and lower Manhattan to be designated as protected from excessive flights, to control air pollution. Because low flights affect densely populated city areas with carcinogenic outpouring of fuel.

3: What impacts could restrictive air traffic control procedures have on operations of:

Law enforcement helicopters:

Answer: There should be no hovering, which spews enormous amounts of carcinogenic

gasses. No seeking out news stories.

Electronic News Gathering(ENG) helicopters?

No interfering with emergency crews, or gathering ENG. Answer:

Sight-seeing tour helicopters?

Trips for sight-seeing should have hours limited to 12noon to 5pm, and Answer: should be monitored to enforce these hours.

Emergency medical services helicopters (EMS)? Only true emergencies

Answer: should make use of emergency helicopters.

Corporate executive helicopters?

Answer: This should be sharply limited to no night flights, no weekend flights, no low flying.

4: What are the recommended solutions for reduction of the effects of nonmilitary helicopter noise?

Answer: Should only be utilized for life-threaening emergency situations. Hovering should be strictly prohibited and monitored for conformity to the restrictions. Pooling of flight assignments would eliminate many excessive flights. Electronic news gathering should be eliminated.

There should be noise abatement at takeoffs and landings and monitoring at heliports There must be monitoring at heliports to determine that helicopter

page 2-Citizen Response to Excessive Helicopter flight questionnaire.

regulations are carried out.

Identification of helicopters should be easy, if the helicopters are clearly

labeled. Labeles should be visible from the ground.

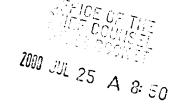
Last but not least, there should be community advisories to the F;A;A;, which should include community leaders and citizens familiar with noise pollution issues!

With a great sense of urgency over this critical issue, I am Sincerely yours,

Kosamoude Alisha te

Rosamonde Alisha Ritt, Former President of the Federation of Citiwide Block Associations

Presently Adjunct Assistant Professor of Music, Nassau Community College



Federal Aviation Administration Office of Chief Counsel Attn: Rules Docket Docket No. 30086 800 Independence Avenue, SW Room 915H Washington, DC 20591



#### YOUR QUESTIONS ARE UNDERLINED

1. What are the types of helicopter operations (law enforcement, electronic news gathering, sightseeing tours, etc.) that elicit the negative response by individuals in densely populated areas?

Traffic helicopters often wake me and my neighbors as early as 5:30 am. Monday through Friday; they had at least one traffic helicopter out early July 4th. I live very close to the 405 freeway on the west of me and a mile north of me is the 101. I live about 3 1/2 miles from the Van Nuys Airport, where the helicopters are stationed.

In Los Angeles it's a ratings grabber for the helicopter equipped media to cover freeway police chases; sometimes for hours. Frequently numerous local TV stations will cover this nonsense.

Even if they were serving a purpose it's not necessary to have the traffic and/or incident photographed by 2, 3 or 4 helicopters.

Throughout the day I see and hear various helicopters in the skies; I'm not sure what they're doing. Most of the time they appear to be media helicopters.

Helicopters at times rattle my ceiling lighting fixtures and occasionally vibrate the front door in the door jam.

Police helicopters can also be very annoying, but at least I recognize their purpose if they are searching for a criminal.

(continued)

# 2. What air traffic control procedures are applicable in addressing helicopter noise reduction? Why?

A curfew of helicopter flights between 10:00 pm and 7:00 am is in order. Helicopters shouldn't be waking people up in the morning.

Helicopters could fly higher, producing less noise.

Maybe media companies could share the camera feed from two traffic helicopters on different ends of town. The media companies could rotate which ones had a pilot in the sky on any given day or week. Individual companies could still have their own reporter on the ground describing the visuals from the common feeds.

Traffic reporters could rely entirely on the Caltrans traffic reporting system. A highly detailed and reliable traffic reporting system run by the state from the ground, eliminating the need for any traffic helicopters

3. What impacts could restrictive air traffic control procedures have on operations of:

Law enforcement helicopters?
Electronic news gathering (ENG) helicopters?
Sightseeing tour helicopters?
Emergency medical services (EMS) helicopters?
Corporate executive helicopters?

EMS should be exempt from any curfews, if it's a real emergency.

4. What are the recommended solutions for reduction of the effects of nonmilitary helicopter noise?

See above answers.

Thank you for including me in your study.

Respectfully

David Augsburger

15236 1/2 Dickens Street Sherman Oaks, CA 91403

(818) 789-7881

Jon Newton 1019 NE Creeksedge Drive Hillsboro, OR 97124 503-615-3077 <inewton@earthlink.net>

Federal Aviation Administration Office of Chief Counsel Attn: Rules Docket, Docket No. 30086 800 Independence Avenue, SW, Room 915H Washington, DC 20591 2000 JUL 25 A 8: 49



To Whom It May Concern:

I am writing in regards to helicopter noise created by a company located at the Hillsboro, Oregon airport.

I represent the Jones Farm Homeowners Association, a neighborhood to the northwest of the Hillsboro Airport. Our neighborhood, along with those to the southeast of us, are plagued by noise and safety issues caused by 200-300 helicopter flights a day.

These flights are made by Hillsboro Aviation, a company located on the Hillsboro Airport grounds, in the operation of their training school. The flights are "touch and go" flights that run in a tight oval to the east of the airport. The flights average a height of 500-700 feet above the ground but often fly as low as 200-300 feet.

The flights can start as early as 6:30 AM and continue until dark, seven days a week including holidays. The flights occur about once every three minutes when a single craft is in the air; but often there are two or more craft within the same pattern, resulting in as many as 40-60 flights per hour.

In addition, many of these craft are driven alone by individuals without pilot licenses, students who have achieved a minimal level of training but are not certified as pilots.

These flights pass just to the east of our neighborhood, and directly over several businesses, at least one public park, and many homes to the southeast. Our neighborhood is newer, only a few years old, and somewhat upscale. The neighborhood to the southeast of us is older, somewhat more blue collar, and contains a significant Hispanic population.

The noise from these flights is appalling. This type of flight, in which the craft is nearly always changing height and turning, generates exceptional rotor blade noise in addition to engine noise. I have measured 70 db levels inside my hometo the southeast, db levels of 80-90 db are not uncommon.

The constancy of the noise makes staying at home for any length of time unbearable, and any kind of outdoor activity or socializing impossible.

We have spoken to every agency with any kind of interest in this issue without success, including the FAA, the city of Hillsboro, the Port of Portland (who manages the airport), and the business itself. We have been told that helicopters are regulated very little by any agency.

It is bizarre to us that, in a country which regulates every type of pollution and safety hazard with such rigor, this situation, which is destroying the quality of life in these neighborhoods, is allowed to continue. It is not routine airport activity, it is not aircraft taking off and going somewhere. It is the operation of a single business which is able to abuse its neighbors to the point of distraction.

And the fact that hundreds of flights a day, many of them driven by non-pilots, are flying a few hundred feet directly over homes with children in them, generate no concern on the part of local or federal agencies is beyond belief.

We appreciate your interest in this matter and would be grateful for any relief you can provide.

Sincerely,

Jon Newton

The company in question is:

Hillsboro Aviation 2565 NE Cornell Road Hillsboro, OR 97124 503-648-2831



July 14, 2000

Federal Aviation Administration Office of Chief Council Attn: Rules Docket, Docket no. 30086 800 Independent Ave. SW Room 915H Washington, DC 20591



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#### To Whom It May Concern:

With regard to your requests for comments on the effects of non-military Helicopter noise, I offer the following. But first, why exclude military helicopters? Noise is noise and a person on the ground cannot always distinguish between types of helicopters. It is a mistake to believe all military flying is essential to the defense of our country. Much of it comes from weekend warriors boring holes in the sky very often in multiple helicopter formations going nowhere in particular.

- 1. People are more willing to tolerate helicopter noise if they believe the flight serves some useful purpose. Thus they are less likely to complain about Police or EMS operations while they have a low tolerance for sightseeing operations. In addition most people would tolerate a single ENG Aircraft at a newsworthy event but they cannot understand why there should be 3 or 4.
  - It is wrong to somehow attempt to regulate helicopter activity by the purpose of the flight. This is unprecedented in aviation and Un-American. Who is to say that a <u>corporate</u> aircraft is more important than an aircraft flown by a sightseeing <u>corporation</u>.
- 2. Most helicopter flights that generate noise complaints are flights that are conducted in the CGA and as such are not subject to air traffic control procedures. Consideration could be given to controlling only helicopters in the CGA, which would then be given specific altitudes and routes by ATC, to the limit of their radar coverages that would minimize the effects of helicopters noise. In this way the CGA would not need to be altered thereby having no effect on fixed-wing traffic. This requirement should not apply to helicopters that employ quiet technology and have demonstrated low noise emissions.

RL-071500-1



- 3. All the listed types of helicopter operations would be effected in a negative way as stated in the following:
  - ❖ Law Enforcement Helicopters As a function of their purpose, work at low altitude under a level of pressure that does not make communications with ATC under emergency situations very possible. Law enforcement would not be able to exist if there were extensive restrictive ATC procedures.
  - ❖ Electronic News Gathering (ENG) Helicopters need to go where the news exists and for that reason could be severally restricted in a more controlled environment.
  - Sightseeing Tour Helicopters Fly a route as dictated by the attractions to be seen. If that route and altitude were in a restricted area the sightseeing companies would cease to exist. It should be noted that in New York City, helicopter sightseeing is forecasted to increase 83 percent between 1996 and 2017 (Heliport and Helicopter Master Plan pg. S-16).
  - Emergency Medical Service and Corporate Executive Helicopters would be the least effected types of operations. Although there is some need for these operators to complete their mission in the shortest time possible and indeed these operations exist primarily because of their speed and convenience, some additional en route time caused by route and altitude restrictions could be tolerated.
- 4. Clearly, the most effective way to reduce the effects of helicopter noise is to reduce the noise itself. Helicopter manufactures have been reluctant to develop quieter helicopters because they could never realize a return on their investment. Operators, even though they would prefer a quieter helicopter, would not pay for one unless they had no other choice.

Quiet helicopters are possible. The Whisper Jet<sup>TM</sup>, (this is not a commercial) a modified S55T was developed by a private citizen and is now certified. This remarkable helicopter emitted 67.1 dBa during a 500 ft. AGL flyover at cruise power while accomplishing the test requirements of FAR 36. This 6-year effort proves that it can be accomplished if the will exists to do so.



It appears that the most likely method available to mitigate helicopter noise would be to alter the route or raise the altitude. This method of moving the noise to a greater distance will clearly produce less perceived noise on the ground however that would impose an undue penalty on quieter helicopters if all helicopters were moved to higher altitudes and offer helicopter manufacturers little incentive to ever produce quiet technology.

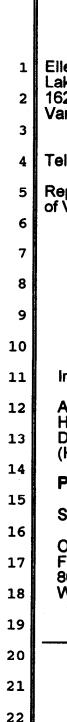
Therefore, I recommend that an acceptable noise standard be established at a ground point and that all helicopters would be required to fly at such an altitude or route so as not to exceed that standard. In this case, noisier helicopters, according to their degree of noise would be required to fly higher or further while quieter helicopters would suffer less of a penalty. This philosophy is at the root of FAR 150 Airport Noise Compatibility Planning, which establishes a 24-hour weighted Ldn at 65 dBa to be compatible with all land uses around an airport. Flight operations are then conducted in a manner that will not exceed 65 dBa. In addition, a contour map is developed that clearly defines its boundaries. A similar contour map should be produced around all major urban areas at Ldn 65 dBa (or any other standard that was effective and appropriate). Helicopters would then be tested and rated, as a means of determining what restrictions, if any, would be applied.

On a personnel level, I have been involved in helicopter operations of every type in New York City for over 40 years and I know the attitude of the citizens. For the most part, these are small groups of very active people who do not necessarily reflect the sentiments of the general population completely. These groups are excessively bellicose and will not be satisfied until all the helicopters are gone. I sincerely hope that this study will give full weight to the helicopter operators that have been flying neighborly for many years and the manufacturers that produce quiet technology helicopters.

Best Regards,

President & CEO Whisper Jet, Inc.

**KB** 



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Telephone: (818) 997-8674

Representing: Residents within 65 CNEL of Van Nuys Airport



# UNITED STATE DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

In the matter of:

ASSESSMENT OF NON-MILITARY HELICOPTER OPERATIONS FOR A DENSELY-POPULATED AREA (Helicopter Noise)

## **PUBLIC COMMENT**

Submitted to:

Office of Chief Counsel Federal Aviation Administration 800 Independence Avenue S.W. Washington, D.C. 20591 Regulatory Docket 30086

July 20, 2000

1.

# This Document Represents Public Comment On Helicopter Noise

The F.A.A. asked residents impacted by non-military helicopter craft to submit comments regarding their experiences and recommendations for restrictions on operations.

Residents hereby submit their comments in hopes of achieving relief from the present situation they find themselves in: unbridled use of the skies under Van Nuys Airport for helicopter operations.

Residents ask that their comments be made a part of the official record on this matter.

## <u>2.</u>

## Four Questions Were Posed To Residents For Comment

The F.A.A. asked for responses to four posed questions:

- (1) What are the types of helicopter operations that elicit the negative response by individuals in densely populated areas?
- (2) What air traffic control procedures are applicable in addressing helicopter noise reduction? Why?
- (3) What impacts could restrictive air traffic control procedures have on operation of law enforcement helicopters, electronic news gathering helicopters, sightseeing tour helicopters, emergency medical services helicopters, corporate executive helicopters?
- (4) What are the recommended solutions for reduction of the effects of non-military helicopter noise?

## <u>3.</u>

## **Response To Question One**

First and foremost, residents recognize the importance of emergency police and fire helicopter operations to the public, and therefore seek NO modification to their existing use of Van Nuys Airport. The noise generated from these helicopters is reflective of public safety needs, and therefore is excluded from comment.

Residents are most troubled by media helicopters that are based, or use Van Nuys Airport. Helicopters typically take off before 5:00 a.m., as local news recently began broadcasting at 5:00 a.m. When local news broadcasts began at 5:30 a.m., helicopter noise began at that time. Television channels 2, 4, 5, 7, 9, 11, 13, 34, and radio stations KFI, KNX, and KFWB take off from the airport at very low altitude, utilizing the 'the shortest distance between two points is a straight line' take-off mentality. There is no regard for the residential community below their take off routes at 5:00 a.m. In addition to noise, houses vibrate, and sleep is abruptly interrupted.

(5) Designating routes which do NOT impact residential neighborhoods. Such routes exist, yet are allowed to be ignored by pilots in their 'shortest distance between two points'

Sight-Seeing helicopters also take off from Van Nuys Airport at low altitude, en route to Universal Studios, the Hollywood Sign, other landmark locations, as well as celebrities' homes. Instead of following paths other than over residential neighborhoods, these sight-seeing helicopters also take a 'shortest distance between two points' attitude.

### <u>4.</u>

### **Response To Question Two**

Residents believe that Los Angeles World Airports (LAWA) has ignored the issue of helicopter noise, and has not established flight procedures to deal with this increasingly annoying problem. There are six (6) designated FAA routes, yet the vast majority of helicopter pilots utilize the southern route, over a densely populated residential neighborhood.

Pilots are able to determine at which altitude they fly, based on their perception of safety. The FAA has not established minimum altitude requirements. Without federal guidance, pilots will continue to fly low over the residential community at all hours of the day and night.

Residents ask the F.A.A. to address the following issues:

- (1) Implementing a curfew for helicopter operations.
- (2) Implementing minimum altitude requirements over densely populated residential neighborhoods.
- (3) Implementing limitations on the number of sight-seeing operations that are based out of Van Nuys Airport. Such operations sometime depart in 15 minute intervals!
- (4) Creating policy on the number of helicopters that can respond to flat tires on freeways, police pursuits, and traffic accidents. Media helicopters often interfere with law enforcement helicopters' ability to provide air assistance to ground units. Residents below such events are overwhelmed by the sound of helicopters hovering overhead for unlimited periods of time.

mentality.

## <u>5.</u>

## Response to Question Three

As stated above, the above suggestions would NOT impact law enforcement or other emergency helicopter operations. Residents would love for there to be no situations for such aircraft to respond to, but that is not realistic, and therefore maintaining public safety is far more important than quiet skies.

Media helicopters, on the other hand, present residents with immeasurable grief! Los Angeles has a Maxwell system of cameras in their freeway system. This system could be utilized, thus eliminating the need for groups of helicopters converging at locations to report events.

In the alternative, media helicopters could simply base themselves elsewhere. There is no reason for the vast majority of choppers being based at Van Nuys, except that OTHER airports have curfews in place. Thus, the City has created the problem for tax-paying residents, and it will take the FAA to remedy the situation.

Sight-seeing helicopters, as with media helicopters, could also base themselves elsewhere. EXCEPT, other airports, as stated above, have regulations, which restrict helicopter operations. Therefore, again the CITY has created the problem for its tax-paying residents, and again it will take the FAA to remedy this situation.

<u>6.</u>

## Response to Question Four

Residents seek the following solutions to the problem of non-military helicopter operations out of Van Nuys Airport:

- (1) Implementing a curfew for helicopter operations.
- (2) Implementing minimum altitude requirements over densely populated residential neighborhoods.
- (3) Implementing limitations on the number of sight-seeing operations that are based out of Van Nuys Airport.

(4) Creating policy on the number of helicopters that can respond to flat tires on freeways, police pursuits, and traffic accidents. Media helicopters often interfere with law enforcement helicopters' ability to provide air assistance to ground units. Residents below such events are overwhelmed by the sound of helicopters hovering overhead for unlimited periods of time.

(5) Designating routes which do NOT impact residential neighborhoods. Such routes exist, yet are allowed to be ignored by pilots in their 'shortest distance between two points' mentality.

# 7. Closing Comments:

This neighborhood, in the past ten years, has seen an increase in the number of aviation operations out of Van Nuys Airport. The single most complained of aircraft is the media helicopter. Not only do residents have to contend with Stage II aircraft, but low flying media helicopters. Helicopters take off before 5:00 a.m. and often fly well into the early morning hours to report incidents broadcasting on their 5:00 a.m. local news shows.

Residents have tried, over the years, to sit down at the table with operators, and have been summarily dismissed. Comments such as "we follow F.A.A. guidelines" have been heard 1,000 times. If that is the case, then the F.A.A. must step forward and implement policies which protect residential communities subjected to excessive noise. Does it seem reasonable to be awakened at 4:40 a.m. by a helicopter, turn on TV, and see an 18 wheeler, 90 miles away, on its side? Or is it reasonable, late at night, to have to turn UP the volume on your TV because a helicopter hovers over your neighborhood, and hear the pilot reporting that he has been INSTRUCTED by local law enforcement to increase their altitude! Lastly, one afternoon 8 helicopters were over this neighborhood, 'in a straight line' reporting a broken fire hydrant. Each local news channel had a "BREAKING NEWS" report of this event — residents living below this earth-shaking event were disturbed for almost 30 minutes!

Residents hope that this issue will not be trivialized, or ignored. Residents further

hope that the pressure exerted by helicopter industry organizations will not prevent the F.A.A. from doing a thorough evaluation of this real, annoying, on-going, disturbance to quality of life issue, and implement meaningful policies.

Respectfully Submitted,

Lake Balboa Neighborhood Association

Ellen Bagelman